

# SEQUENCE LISTING

<110> Molero, Juan C  
James, David

<120> Methods of treatment of feeding disorders or disorders of glucose uptake and for modifying metabolism and identifying therapeutic reagents therefor

<130> 42-000200US

<140> US 10/539,105  
<141> 2005-06-14

<150> AU 2002953393  
<151> 2002-12-16

<150> AU 2003906285  
<151> 2003-11-14

<150> PCT/AU2003/001676  
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<170> PatentIn version 3.3

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Tyr Ile Leu Asp Leu Leu Pro Asp Thr Tyr Gln His Leu Arg Thr Val  
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Phe Arg Val Phe Met Glu Asn Leu Met Lys Lys Thr Lys Gln Thr Ile  
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690 695 700

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785 790 795 800

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820 825 830

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Pro Pro Tyr Ile Leu Asp Leu Leu Pro Asp Thr Tyr Gln His Leu Arg  
 85 90 95

Thr Ile Leu Ser Arg Tyr Glu Gly Lys Met Glu Thr Leu Gly Glu Asn  
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Glu Tyr Phe Arg Val Phe Met Glu Asn Leu Met Lys Lys Thr Lys Gln  
 115 120 125

Thr Ile Ser Leu Phe Lys Glu Gly Lys Glu Arg Met Tyr Glu Glu Asn  
 130 135 140

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Pro Glu Cys Asp His Pro Lys Ile Lys Pro Ser Ser Ser Ala Asn Ala



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665

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Ile Tyr Ser Leu Ala Ala Arg Pro Leu Pro Val Pro Lys Leu Pro Pro  
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Asp Cys Asp Gln Gln Ile Asp Ser Cys Thr Tyr Glu Ala Met Tyr Asn  
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Ile Gln Ser Gln Ala Pro Ser Ile Thr Glu Ser Ser Thr Phe Gly Glu  
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Asn Glu Asp Asp Gly Tyr Asp Val Pro Lys Pro Pro Val Pro Ala Val  
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785 790 795 800

Gly Trp Leu Ser Leu Asp Gly Asp Pro Thr Thr Asn Val Thr Glu Gly  
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Ser Gln Val Pro Glu Arg Pro Pro Lys Pro Phe Pro Arg Arg Ile Asn  
820 825 830

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 Ser Gly Gly Ser Gly Ser Gly Gly Leu Ile Gly Leu Met Lys Asp Ala  
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ttc cag ccg cac cac cac cac cac cac ctc agc ccc cac ccg ccg Phe Gln Pro His His His His His His His Leu Ser Pro His Pro Pro 35 40 45	144
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aag gtg gtg cgg ttg tgt cag aac cca aag ctg gcg cta aag aat agc Lys Val Val Arg Leu Cys Gln Asn Pro Lys Leu Ala Leu Lys Asn Ser 65 70 75 80	240
cca cct tat atc tta gac ctg cta cca gat acc tac cag cat ctc cgt Pro Pro Tyr Ile Leu Asp Leu Leu Pro Asp Thr Tyr Gln His Leu Arg 85 90 95	288
act atc ttg tca aga tat gag ggg aag atg gag aca ctt gga gaa aat Thr Ile Leu Ser Arg Tyr Glu Gly Lys Met Glu Thr Leu Gly Glu Asn 100 105 110	336
gag tat ttt agg gtg ttt atg gag aat ttg atg aag aaa act aag caa Glu Tyr Phe Arg Val Phe Met Glu Asn Leu Met Lys Lys Thr Lys Gln 115 120 125	384
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gac aca ttt cgg att act aaa gca gat gct gcg gaa ttt tgg aga aaa Asp Thr Phe Arg Ile Thr Lys Ala Asp Ala Ala Glu Phe Trp Arg Lys 180 185 190	576
gct ttt ggg gaa aag aca ata gtc cct tgg aag agc ttt cga cag gct Ala Phe Gly Glu Lys Thr Ile Val Pro Trp Lys Ser Phe Arg Gln Ala 195 200 205	624
cta cat gaa gtg cat ccc atc agt tct ggg ctg gag gcc atg gct ctg Leu His Glu Val His Pro Ile Ser Ser Gly Leu Glu Ala Met Ala Leu 210 215 220	672
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Gln Arg Arg Pro Leu Pro Cys Thr Pro Gly Asp Cys Pro Ser Arg Asp	
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Arg Pro Ile Pro Lys Val Pro Val Ser Ala Pro Ser Ser Ser Asp Pro	
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Trp Thr Gly Arg Glu Leu Thr Asn Arg His Ser Leu Pro Phe Ser Leu	
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Leu Ala Arg Arg Thr Leu Ser Asp Ile Ser Asn Ala Ser Ser Ser Phe	
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865 870 875 880	
gcc cag aac aac atc gag atg gcc aaa aac atc ctc cgg gaa ttt gtt	2688
Ala Gln Asn Asn Ile Glu Met Ala Lys Asn Ile Leu Arg Glu Phe Val	
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50 55 60  
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Pro Pro Tyr Ile Leu Asp Leu Leu Pro Asp Thr Tyr Gln His Leu Arg  
85 90 95  
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Glu Tyr Phe Arg Val Phe Met Glu Asn Leu Met Lys Lys Thr Lys Gln  
115 120 125  
Thr Ile Ser Leu Phe Lys Glu Gly Lys Glu Arg Met Tyr Glu Glu Asn  
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145 150 155 160  
Met Leu Ala Glu Leu Lys Gly Ile Phe Pro Ser Gly Leu Phe Gln Gly  
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180 185 190  
Ala Phe Gly Glu Lys Thr Ile Val Pro Trp Lys Ser Phe Arg Gln Ala  
195 200 205  
Leu His Glu Val His Pro Ile Ser Ser Gly Leu Glu Ala Met Ala Leu  
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Lys Ser Thr Ile Asp Leu Thr Cys Asn Asp Tyr Ile Ser Val Phe Glu  
225 230 235 240  
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Gly Ser Tyr Ile Phe Arg Leu Ser Cys Thr Arg Leu Gly Gln Trp Ala  
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Ile Glu Tyr Val Thr Ala Asp Gly Asn Ile Leu Gln Thr Ile Pro His  
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Asn Lys Pro Leu Phe Gln Ala Leu Ile Asp Gly Phe Arg Glu Gly Phe  
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Tyr Leu Phe Pro Asp Gly Arg Asn Gln Asn Pro Asp Leu Thr Gly Leu  
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Cys Glu Pro Thr Pro Gln Asp His Ile Lys Val Thr Gln Glu Gln Tyr  
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Glu Leu Tyr Cys Glu Met Gly Ser Thr Phe Gln Leu Cys Lys Ile Cys  
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Asp Thr Leu Phe Met Met Lys Glu Leu Ala Gly Ala Lys Val Glu Arg  
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Arg Pro Ile Pro Lys Val Pro Val Ser Ala Pro Ser Ser Ser Asp Pro  
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tcc ggg ggc tcg ggt tcg ggt ggc ctg att ggg ctc atg aag gac gcc 96  
Ser Gly Gly Ser Gly Ser Gly Gly Leu Ile Gly Leu Met Lys Asp Ala

20	25	30	
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ggg acg gtg gac aag aag atg gtg gag aag tgc tgg aag ctc atg gac Gly Thr Val Asp Lys Lys Met Val Glu Lys Cys Trp Lys Leu Met Asp 50 55 60			192
aag gtg gtg cgg ttg tgt cag aac cca aag ctg gcg cta aag aat agc Lys Val Val Arg Leu Cys Gln Asn Pro Lys Leu Ala Leu Lys Asn Ser 65 70 75 80			240
cca cct tat atc tta gac ctg cta cca gat acc tac cag cat ctc cgt Pro Pro Tyr Ile Leu Asp Leu Leu Pro Asp Thr Tyr Gln His Leu Arg 85 90 95			288
act atc ttg tca aga tat gag ggg aag atg gag aca ctt gga gaa aat Thr Ile Leu Ser Arg Tyr Glu Gly Lys Met Glu Thr Leu Gly Glu Asn 100 105 110			336
gag tat ttt agg gtg ttt atg gag aat ttg atg aag aaa act aag caa Glu Tyr Phe Arg Val Phe Met Glu Asn Leu Met Lys Lys Thr Lys Gln 115 120 125			384
acc ata agc ctc ttc aag gag gga aaa gaa aga atg tat gag gag aat Thr Ile Ser Leu Phe Lys Glu Gly Lys Glu Arg Met Tyr Glu Glu Asn 130 135 140			432
tct cag cct agg cga aac cta acc aaa ctg tcc ctc atc ttc agc cac Ser Gln Pro Arg Arg Asn Leu Thr Lys Leu Ser Leu Ile Phe Ser His 145 150 155 160			480
atg ctg gca gaa cta aaa gga atc ttt cca agt gga ctc ttt cag gga Met Leu Ala Glu Leu Lys Gly Ile Phe Pro Ser Gly Leu Phe Gln Gly 165 170 175			528
gac aca ttt cgg att act aaa gca gat gct gcg gaa ttt tgg aga aaa Asp Thr Phe Arg Ile Thr Lys Ala Asp Ala Ala Glu Phe Trp Arg Lys 180 185 190			576
gct ttt ggg gaa aag aca ata gtc cct tgg aag agc ttt cga cag gct Ala Phe Gly Glu Lys Thr Ile Val Pro Trp Lys Ser Phe Arg Gln Ala 195 200 205			624
cta cat gaa gtg cat ccc atc agt tct ggg ctg gag gcc atg gct ctg Leu His Glu Val His Pro Ile Ser Ser Gly Leu Glu Ala Met Ala Leu 210 215 220			672
aaa tcc act att gat ctg acc tgc aat gat tat att tcg gtt ttt gaa Lys Ser Thr Ile Asp Leu Thr Cys Asn Asp Tyr Ile Ser Val Phe Glu 225 230 235 240			720
ttt gac atc ttt acc cga ctc ttt cag ccc tgg tcc tct ttg ctc agg Phe Asp Ile Phe Thr Arg Leu Phe Gln Pro Trp Ser Ser Leu Leu Arg 245 250 255			768
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260	265	270	
acg tat gac gaa gtg aaa gct cgg ctc cag aaa ttc att cac aaa cct Thr Tyr Asp Glu Val Lys Ala Arg Leu Gln Lys Phe Ile His Lys Pro 275 280 285			864
ggc agt tat atc ttc cgg ctg agc tgt act cgt ctg ggt cag tgg gct Gly Ser Tyr Ile Phe Arg Leu Ser Cys Thr Arg Leu Gly Gln Trp Ala 290 295 300			912
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aat aaa cct ctc ttc caa gca ctg att gat ggc ttc agg gaa ggc ttc Asn Lys Pro Leu Phe Gln Ala Leu Ile Asp Gly Phe Arg Glu Gly Phe 325 330 335			1008
tat ttg ttt cct gat gga cga aat cag aat cct gat ctg act ggc tta Tyr Leu Phe Pro Asp Gly Arg Asn Gln Asn Pro Asp Leu Thr Gly Leu 340 345 350			1056
tgt gaa cca act ccc caa gac cat atc aaa gtg acc cag gaa caa tat Cys Glu Pro Thr Pro Gln Asp His Ile Lys Val Thr Gln Glu Gln Tyr 355 360 365			1104
gaa tta tac tgt gag atg ggc tcc aca ttc caa cta gct aaa ata tgt Glu Leu Tyr Cys Glu Met Gly Ser Thr Phe Gln Leu Ala Lys Ile Cys 370 375 380			1152
gct gaa aat gat aag gat gta aag att gag ccc tgt gga cac ctc atg Ala Glu Asn Asp Lys Asp Val Lys Ile Glu Pro Cys Gly His Leu Met 385 390 395 400			1200
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ccg ttt gat cct aga ggg agt ggc agc ctg ttg agg caa gga gca gag Pro Phe Asp Pro Arg Gly Ser Gly Ser Leu Leu Arg Gln Gly Ala Glu 435 440 445			1344
gga gct ccc tcc cca aat tat gat gat gat gat gat gaa cga gct gat Gly Ala Pro Ser Pro Asn Tyr Asp Asp Asp Asp Asp Glu Arg Ala Asp 450 455 460			1392
gat act ctc ttc atg atg aag gaa ttg gct ggt gcc aag gtg gaa cgg Asp Thr Leu Phe Met Met Lys Glu Leu Ala Gly Ala Lys Val Glu Arg 465 470 475 480			1440
ccg cct tct cca ttc tcc atg gcc cca caa gct tcc ctt ccc ccg gtg Pro Pro Ser Pro Phe Ser Met Ala Pro Gln Ala Ser Leu Pro Pro Val 485 490 495			1488
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500					505					510					
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595	600	605													
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610	615	620													
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625	630	635	640												
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645	650	655													
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att tat tct ctg gct gcc aga cct ctt cct gtg cca aaa ctg cca cct	Ile Tyr Ser Leu Ala Ala Arg Pro Leu Pro Val Pro Lys Leu Pro Pro	2064													
675	680	685													
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690	695	700													
tcc agg cct cta cgg cct ttg gat aca tcc cag agt tca cga gca tgt	Ser Arg Pro Leu Arg Pro Leu Asp Thr Ser Gln Ser Ser Arg Ala Cys	2160													
705	710	715	720												
gat tgc gac cag cag att gat agc tgt acg tat gaa gca atg tat aat	Asp Cys Asp Gln Gln Ile Asp Ser Cys Thr Tyr Glu Ala Met Tyr Asn	2208													
725	730	735													
att cag tcc cag gcg cca tct atc acc gag agc agc acc ttt ggt gaa	Ile Gln Ser Gln Ala Pro Ser Ile Thr Glu Ser Ser Thr Phe Gly Glu	2256													

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Gly Asn Leu Ala Ala Ala His Ala Asn Thr Gly Pro Glu Glu Ser Glu			
755	760	765	
aat gag gat gat ggg tat gat gtc cca aag cca cct gtg ccg gcc gtg			2352
Asn Glu Asp Asp Gly Tyr Asp Val Pro Lys Pro Pro Val Pro Ala Val			
770	775	780	
ctg gcc cgc cga act ctc tca gat atc tct aat gcc agc tcc tcc ttt			2400
Leu Ala Arg Arg Thr Leu Ser Asp Ile Ser Asn Ala Ser Ser Ser Phe			
785	790	795	800
ggc tgg ttg tct ctg gat ggt gat cct aca aca aat gtc act gaa ggt			2448
Gly Trp Leu Ser Leu Asp Gly Asp Pro Thr Thr Asn Val Thr Glu Gly			
805	810	815	
tcc caa gtt ccc gag agg cct cca aaa cca ttc ccg cgg aga atc aac			2496
Ser Gln Val Pro Glu Arg Pro Pro Lys Pro Phe Pro Arg Arg Ile Asn			
820	825	830	
tct gaa cgg aaa gct ggc agc tgt cag caa ggt agt ggt cct gcc gcc			2544
Ser Glu Arg Lys Ala Gly Ser Cys Gln Gln Gly Ser Gly Pro Ala Ala			
835	840	845	
tct gct gcc acc gcc tca cct cag ctc tcc agt gag atc gag aac ctc			2592
Ser Ala Ala Thr Ala Ser Pro Gln Leu Ser Ser Glu Ile Glu Asn Leu			
850	855	860	
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Met Ser Gln Gly Tyr Ser Tyr Gln Asp Ile Gln Lys Ala Leu Val Ile			
865	870	875	880
gcc cag aac aac atc gag atg gcc aaa aac atc ctc cgg gaa ttt gtt			2688
Ala Gln Asn Asn Ile Glu Met Ala Lys Asn Ile Leu Arg Glu Phe Val			
885	890	895	
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900	905		

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 <213> artificial

<220>  
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<400> 250

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			20					25					30		

Phe Gln Pro His His His His His His His Leu Ser Pro His Pro Pro  
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Gly Thr Val Asp Lys Lys Met Val Glu Lys Cys Trp Lys Leu Met Asp  
50 55 60  
Lys Val Val Arg Leu Cys Gln Asn Pro Lys Leu Ala Leu Lys Asn Ser  
65 70 75 80  
Pro Pro Tyr Ile Leu Asp Leu Leu Pro Asp Thr Tyr Gln His Leu Arg  
85 90 95  
Thr Ile Leu Ser Arg Tyr Glu Gly Lys Met Glu Thr Leu Gly Glu Asn  
100 105 110  
Glu Tyr Phe Arg Val Phe Met Glu Asn Leu Met Lys Lys Thr Lys Gln  
115 120 125  
Thr Ile Ser Leu Phe Lys Glu Gly Lys Glu Arg Met Tyr Glu Glu Asn  
130 135 140  
Ser Gln Pro Arg Arg Asn Leu Thr Lys Leu Ser Leu Ile Phe Ser His  
145 150 155 160  
Met Leu Ala Glu Leu Lys Gly Ile Phe Pro Ser Gly Leu Phe Gln Gly  
165 170 175  
Asp Thr Phe Arg Ile Thr Lys Ala Asp Ala Ala Glu Phe Trp Arg Lys  
180 185 190  
Ala Phe Gly Glu Lys Thr Ile Val Pro Trp Lys Ser Phe Arg Gln Ala  
195 200 205  
Leu His Glu Val His Pro Ile Ser Ser Gly Leu Glu Ala Met Ala Leu  
210 215 220  
Lys Ser Thr Ile Asp Leu Thr Cys Asn Asp Tyr Ile Ser Val Phe Glu  
225 230 235 240  
Phe Asp Ile Phe Thr Arg Leu Phe Gln Pro Trp Ser Ser Leu Leu Arg  
245 250 255  
Asn Trp Asn Ser Leu Ala Val Thr His Pro Gly Tyr Met Ala Phe Leu  
260 265 270

Thr Tyr Asp Glu Val Lys Ala Arg Leu Gln Lys Phe Ile His Lys Pro  
 275 280 285

Gly Ser Tyr Ile Phe Arg Leu Ser Cys Thr Arg Leu Gly Gln Trp Ala  
 290 295 300

Ile Gly Tyr Val Thr Ala Asp Gly Asn Ile Leu Gln Thr Ile Pro His  
 305 310 315 320

Asn Lys Pro Leu Phe Gln Ala Leu Ile Asp Gly Phe Arg Glu Gly Phe  
 325 330 335

Tyr Leu Phe Pro Asp Gly Arg Asn Gln Asn Pro Asp Leu Thr Gly Leu  
 340 345 350

Cys Glu Pro Thr Pro Gln Asp His Ile Lys Val Thr Gln Glu Gln Tyr  
 355 360 365

Glu Leu Tyr Cys Glu Met Gly Ser Thr Phe Gln Leu Ala Lys Ile Cys  
 370 375 380

Ala Glu Asn Asp Lys Asp Val Lys Ile Glu Pro Cys Gly His Leu Met  
 385 390 395 400

Cys Thr Ser Cys Leu Thr Ser Trp Gln Glu Ser Glu Gly Gln Gly Cys  
 405 410 415

Pro Phe Cys Arg Cys Glu Ile Lys Gly Thr Glu Pro Ile Val Val Asp  
 420 425 430

Pro Phe Asp Pro Arg Gly Ser Gly Ser Leu Leu Arg Gln Gly Ala Glu  
 435 440 445

Gly Ala Pro Ser Pro Asn Tyr Asp Asp Asp Asp Asp Glu Arg Ala Asp  
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Asp Thr Leu Phe Met Met Lys Glu Leu Ala Gly Ala Lys Val Glu Arg  
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Pro Pro Ser Pro Phe Ser Met Ala Pro Gln Ala Ser Leu Pro Pro Val  
 485 490 495

Pro Pro Arg Leu Asp Leu Leu Pro Gln Arg Val Cys Val Pro Ser Ser  
 500 505 510



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515 520 525.

Lys Asp Lys Pro Leu Pro Val Pro Pro Thr Leu Arg Asp Leu Pro Pro  
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Pro Pro Pro Pro Asp Arg Pro Tyr Ser Val Gly Ala Glu Ser Arg Pro  
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Gln Arg Arg Pro Leu Pro Cys Thr Pro Gly Asp Cys Pro Ser Arg Asp  
565 570 575

Lys Leu Pro Pro Val Pro Ser Ser Arg Leu Gly Asp Ser Trp Leu Pro  
580 585 590

Arg Pro Ile Pro Lys Val Pro Val Ser Ala Pro Ser Ser Ser Asp Pro  
595 600 605

Trp Thr Gly Arg Glu Leu Thr Asn Arg His Ser Leu Pro Phe Ser Leu  
610 615 620

Pro Ser Gln Met Glu Pro Arg Pro Asp Val Pro Arg Leu Gly Ser Thr  
625 630 635 640

Phe Ser Leu Asp Thr Ser Met Ser Met Asn Ser Ser Pro Leu Val Gly  
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Pro Glu Cys Asp His Pro Lys Ile Lys Pro Ser Ser Ser Ala Asn Ala  
660 665 670

Ile Tyr Ser Leu Ala Ala Arg Pro Leu Pro Val Pro Lys Leu Pro Pro  
675 680 685

Gly Glu Gln Cys Glu Gly Glu Glu Asp Thr Glu Tyr Met Thr Pro Ser  
690 695 700

Ser Arg Pro Leu Arg Pro Leu Asp Thr Ser Gln Ser Ser Arg Ala Cys  
705 710 715 720

Asp Cys Asp Gln Gln Ile Asp Ser Cys Thr Tyr Glu Ala Met Tyr Asn  
725 730 735

Ile Gln Ser Gln Ala Pro Ser Ile Thr Glu Ser Ser Thr Phe Gly Glu  
740 745 750

Gly Asn Leu Ala Ala Ala His Ala Asn Thr Gly Pro Glu Glu Ser Glu  
755 760 765

Asn Glu Asp Asp Gly Tyr Asp Val Pro Lys Pro Pro Val Pro Ala Val  
770 775 780

Leu Ala Arg Arg Thr Leu Ser Asp Ile Ser Asn Ala Ser Ser Ser Phe  
785 790 795 800

Gly Trp Leu Ser Leu Asp Gly Asp Pro Thr Thr Asn Val Thr Glu Gly  
805 810 815

Ser Gln Val Pro Glu Arg Pro Pro Lys Pro Phe Pro Arg Arg Ile Asn  
820 825 830

Ser Glu Arg Lys Ala Gly Ser Cys Gln Gln Gly Ser Gly Pro Ala Ala  
835 840 845

Ser Ala Ala Thr Ala Ser Pro Gln Leu Ser Ser Glu Ile Glu Asn Leu  
850 855 860

Met Ser Gln Gly Tyr Ser Tyr Gln Asp Ile Gln Lys Ala Leu Val Ile  
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Ser Gly Gly Ser Gly Ser Gly Gly Leu Ile Gly Leu Met Lys Asp Ala	
20 25 30	
ttc cag ccg cac cac cac cac cac cac ctc agc ccc cac ccg ccg	144
Phe Gln Pro His His His His His His His Leu Ser Pro His Pro Pro	
35 40 45	
ggg acg gtg gac aag aag atg gtg gag aag tgc tgg aag ctc atg gac	192
Gly Thr Val Asp Lys Lys Met Val Glu Lys Cys Trp Lys Leu Met Asp	
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aag gtg gtg cgg ttg tgt cag aac cca aag ctg gcg cta aag aat agc	240
Lys Val Val Arg Leu Cys Gln Asn Pro Lys Leu Ala Leu Lys Asn Ser	
65 70 75 80	
cca cct tat atc tta gac ctg cta cca gat acc tac cag cat ctc cgt	288
Pro Pro Tyr Ile Leu Asp Leu Leu Pro Asp Thr Tyr Gln His Leu Arg	
85 90 95	
act atc ttg tca aga tat gag ggg aag atg gag aca ctt gga gaa aat	336
Thr Ile Leu Ser Arg Tyr Glu Gly Lys Met Glu Thr Leu Gly Glu Asn	
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gag tat ttt agg gtg ttt atg gag aat ttg atg aag aaa act aag caa	384
Glu Tyr Phe Arg Val Phe Met Glu Asn Leu Met Lys Lys Thr Lys Gln	
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Thr Ile Ser Leu Phe Lys Glu Gly Lys Glu Arg Met Tyr Glu Glu Asn	
130 135 140	
tct cag cct agg cga aac cta acc aaa ctg tcc ctc atc ttc agc cac	480
Ser Gln Pro Arg Arg Asn Leu Thr Lys Leu Ser Leu Ile Phe Ser His	
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Leu His Glu Val His Pro Ile Ser Ser Gly Leu Glu Ala Met Ala Leu	
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Lys Ser Thr Ile Asp Leu Thr Cys Asn Asp Tyr Ile Ser Val Phe Glu	
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Phe Asp Ile Phe Thr Arg Leu Phe Gln Pro Trp Ser Ser Leu Leu Arg	
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Cys Glu Pro Thr Pro Gln Asp His Ile Lys Val Thr Gln Glu Gln Tyr	
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Cys Thr Ser Cys Leu Thr Ser Trp Gln Glu Ser Glu Gly Gln Gly Cys	
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cca cca cga ctt gac ctt ctg ccg cag cga gta tgt gtt ccc tca agt	1536

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Ala	Ser	Ala	Leu	Gly	Thr	Ala	Ser	Lys	Ala	Ala	Ser	Gly	Ser	Leu	His		
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Lys	Asp	Lys	Pro	Leu	Pro	Val	Pro	Pro	Thr	Leu	Arg	Asp	Leu	Pro	Pro		
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Gln	Arg	Arg	Pro	Leu	Pro	Cys	Thr	Pro	Gly	Asp	Cys	Pro	Ser	Arg	Asp		
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Lys	Leu	Pro	Pro	Val	Pro	Ser	Ser	Arg	Leu	Gly	Asp	Ser	Trp	Leu	Pro		
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Trp	Thr	Gly	Arg	Glu	Leu	Thr	Asn	Arg	His	Ser	Leu	Pro	Phe	Ser	Leu		
			610			615					620						
ccc	tca	caa	atg	gag	ccc	aga	cca	gat	gtg	cct	agg	ctc	gga	agc	acg	1920	
Pro	Ser	Gln	Met	Glu	Pro	Arg	Pro	Asp	Val	Pro	Arg	Leu	Gly	Ser	Thr		
					630					635					640		
ttc	agt	ctg	gat	acc	tcc	atg	agt	atg	aat	agc	agc	cca	tta	gta	ggc	1968	
Phe	Ser	Leu	Asp	Thr	Ser	Met	Ser	Met	Asn	Ser	Ser	Pro	Leu	Val	Gly		
				645					650					655			
cca	gag	tgt	gac	cac	ccc	aaa	atc	aaa	cct	tcc	tca	tct	gcc	aat	gcc	2016	
Pro	Glu	Cys	Asp	His	Pro	Lys	Ile	Lys	Pro	Ser	Ser	Ser	Ala	Asn	Ala		
			660					665					670				
att	tat	tct	ctg	gct	gcc	aga	cct	ctt	cct	gtg	cca	aaa	ctg	cca	cct	2064	
Ile	Tyr	Ser	Leu	Ala	Ala	Arg	Pro	Leu	Pro	Val	Pro	Lys	Leu	Pro	Pro		
			675				680					685					
ggg	gag	caa	tgt	gag	ggc	gaa	gag	gac	aca	gag	ttc	atg	act	ccc	tct	2112	
Gly	Glu	Gln	Cys	Glu	Gly	Glu	Glu	Asp	Thr	Glu	Phe	Met	Thr	Pro	Ser		
			690			695					700						
tcc	agg	cct	cta	cgg	cct	ttg	gat	aca	tcc	cag	agt	tca	cga	gca	tgt	2160	
Ser	Arg	Pro	Leu	Arg	Pro	Leu	Asp	Thr	Ser	Gln	Ser	Ser	Arg	Ala	Cys		
					710					715					720		
gat	tgc	gac	cag	cag	att	gat	agc	tgt	acg	tat	gaa	gca	atg	tat	aat	2208	
Asp	Cys	Asp	Gln	Gln	Ile	Asp	Ser	Cys	Thr	Tyr	Glu	Ala	Met	Tyr	Asn		
				725					730					735			
att	cag	tcc	cag	gcg	cca	tct	atc	acc	gag	agc	agc	acc	ttt	ggc	gaa	2256	

Ile	Gln	Ser	Gln	Ala	Pro	Ser	Ile	Thr	Glu	Ser	Ser	Thr	Phe	Gly	Glu		
			740					745					750				
ggg	aat	ttg	gcc	gca	gcc	cat	gcc	aac	act	ggt	ccc	gag	gag	tca	gaa	2304	
Gly	Asn	Leu	Ala	Ala	Ala	His	Ala	Asn	Thr	Gly	Pro	Glu	Glu	Ser	Glu		
		755					760					765					
aat	gag	gat	gat	ggg	tat	gat	gtc	cca	aag	cca	cct	gtg	ccg	gcc	gtg	2352	
Asn	Glu	Asp	Asp	Gly	Tyr	Asp	Val	Pro	Lys	Pro	Pro	Val	Pro	Ala	Val		
	770					775					780						
ctg	gcc	cgc	cga	act	ctc	tca	gat	atc	tct	aat	gcc	agc	tcc	tcc	ttt	2400	
Leu	Ala	Arg	Arg	Thr	Leu	Ser	Asp	Ile	Ser	Asn	Ala	Ser	Ser	Ser	Phe		
	785				790					795					800		
ggc	tgg	ttg	tct	ctg	gat	ggt	gat	cct	aca	aca	aat	gtc	act	gaa	ggt	2448	
Gly	Trp	Leu	Ser	Leu	Asp	Gly	Asp	Pro	Thr	Thr	Asn	Val	Thr	Glu	Gly		
			805					810						815			
tcc	caa	gtt	ccc	gag	agg	cct	cca	aaa	cca	ttc	ccg	cgg	aga	atc	aac	2496	
Ser	Gln	Val	Pro	Glu	Arg	Pro	Pro	Lys	Pro	Phe	Pro	Arg	Arg	Ile	Asn		
			820					825					830				
tct	gaa	cgg	aaa	gct	ggc	agc	tgt	cag	caa	ggt	agt	ggt	cct	gcc	gcc	2544	
Ser	Glu	Arg	Lys	Ala	Gly	Ser	Cys	Gln	Gln	Gly	Ser	Gly	Pro	Ala	Ala		
	835						840					845					
tct	gct	gcc	acc	gcc	tca	cct	cag	ctc	tcc	agt	gag	atc	gag	aac	ctc	2592	
Ser	Ala	Ala	Thr	Ala	Ser	Pro	Gln	Leu	Ser	Ser	Glu	Ile	Glu	Asn	Leu		
	850					855					860						
atg	agt	cag	ggg	tac	tcc	tac	cag	gac	atc	cag	aaa	gct	ttg	gtc	att	2640	
Met	Ser	Gln	Gly	Tyr	Ser	Tyr	Gln	Asp	Ile	Gln	Lys	Ala	Leu	Val	Ile		
	865				870					875					880		
gcc	cag	aac	aac	atc	gag	atg	gcc	aaa	aac	atc	ctc	cgg	gaa	ttt	gtt	2688	
Ala	Gln	Asn	Asn	Ile	Glu	Met	Ala	Lys	Asn	Ile	Leu	Arg	Glu	Phe	Val		
				885					890					895			
tcc	att	tct	tct	cct	gcc	cat	gta	gct	acc	tag						2721	
Ser	Ile	Ser	Ser	Pro	Ala	His	Val	Ala	Thr								
			900					905									

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 <211> 906  
 <212> PRT  
 <213> artificial

<220>  
 <223> Synthetic Construct

<400> 252

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Ser	Gly	Gly	Ser	Gly	Ser	Gly	Gly	Leu	Ile	Gly	Leu	Met	Lys	Asp	Ala
			20					25					30		

Phe Gln Pro His His His His His His His Leu Ser Pro His Pro Pro  
35 40 45  
Gly Thr Val Asp Lys Lys Met Val Glu Lys Cys Trp Lys Leu Met Asp  
50 55 60  
Lys Val Val Arg Leu Cys Gln Asn Pro Lys Leu Ala Leu Lys Asn Ser  
65 70 75 80  
Pro Pro Tyr Ile Leu Asp Leu Leu Pro Asp Thr Tyr Gln His Leu Arg  
85 90 95  
Thr Ile Leu Ser Arg Tyr Glu Gly Lys Met Glu Thr Leu Gly Glu Asn  
100 105 110  
Glu Tyr Phe Arg Val Phe Met Glu Asn Leu Met Lys Lys Thr Lys Gln  
115 120 125  
Thr Ile Ser Leu Phe Lys Glu Gly Lys Glu Arg Met Tyr Glu Glu Asn  
130 135 140  
Ser Gln Pro Arg Arg Asn Leu Thr Lys Leu Ser Leu Ile Phe Ser His  
145 150 155 160  
Met Leu Ala Glu Leu Lys Gly Ile Phe Pro Ser Gly Leu Phe Gln Gly  
165 170 175  
Asp Thr Phe Arg Ile Thr Lys Ala Asp Ala Ala Glu Phe Trp Arg Lys  
180 185 190  
Ala Phe Gly Glu Lys Thr Ile Val Pro Trp Lys Ser Phe Arg Gln Ala  
195 200 205  
Leu His Glu Val His Pro Ile Ser Ser Gly Leu Glu Ala Met Ala Leu  
210 215 220  
Lys Ser Thr Ile Asp Leu Thr Cys Asn Asp Tyr Ile Ser Val Phe Glu  
225 230 235 240  
Phe Asp Ile Phe Thr Arg Leu Phe Gln Pro Trp Ser Ser Leu Leu Arg  
245 250 255  
Asn Trp Asn Ser Leu Ala Val Thr His Pro Gly Tyr Met Ala Phe Leu  
260 265 270

Thr Tyr Asp Glu Val Lys Ala Arg Leu Gln Lys Phe Ile His Lys Pro  
275 280 285

Gly Ser Tyr Ile Phe Arg Leu Ser Cys Thr Arg Leu Gly Gln Trp Ala  
290 295 300

Ile Gly Tyr Val Thr Ala Asp Gly Asn Ile Leu Gln Thr Ile Pro His  
305 310 315 320

Asn Lys Pro Leu Phe Gln Ala Leu Ile Asp Gly Phe Arg Glu Gly Phe  
325 330 335

Tyr Leu Phe Pro Asp Gly Arg Asn Gln Asn Pro Asp Leu Thr Gly Leu  
340 345 350

Cys Glu Pro Thr Pro Gln Asp His Ile Lys Val Thr Gln Glu Gln Tyr  
355 360 365

Glu Leu Tyr Cys Glu Met Gly Ser Thr Phe Gln Leu Cys Lys Ile Cys  
370 375 380

Ala Glu Asn Asp Lys Asp Val Lys Ile Glu Pro Cys Gly His Leu Met  
385 390 395 400

Cys Thr Ser Cys Leu Thr Ser Trp Gln Glu Ser Glu Gly Gln Gly Cys  
405 410 415

Pro Phe Cys Arg Cys Glu Ile Lys Gly Thr Glu Pro Ile Val Val Asp  
420 425 430

Pro Phe Asp Pro Arg Gly Ser Gly Ser Leu Leu Arg Gln Gly Ala Glu  
435 440 445

Gly Ala Pro Ser Pro Asn Tyr Asp Asp Asp Asp Asp Glu Arg Ala Asp  
450 455 460

Asp Thr Leu Phe Met Met Lys Glu Leu Ala Gly Ala Lys Val Glu Arg  
465 470 475 480

Pro Pro Ser Pro Phe Ser Met Ala Pro Gln Ala Ser Leu Pro Pro Val  
485 490 495

Pro Pro Arg Leu Asp Leu Leu Pro Gln Arg Val Cys Val Pro Ser Ser  
500 505 510



Ala Ser Ala Leu Gly Thr Ala Ser Lys Ala Ala Ser Gly Ser Leu His  
 515 520 525

Lys Asp Lys Pro Leu Pro Val Pro Pro Thr Leu Arg Asp Leu Pro Pro  
 530 535 540

Pro Pro Pro Pro Asp Arg Pro Tyr Ser Val Gly Ala Glu Ser Arg Pro  
 545 550 555 560

Gln Arg Arg Pro Leu Pro Cys Thr Pro Gly Asp Cys Pro Ser Arg Asp  
 565 570 575

Lys Leu Pro Pro Val Pro Ser Ser Arg Leu Gly Asp Ser Trp Leu Pro  
 580 585 590

Arg Pro Ile Pro Lys Val Pro Val Ser Ala Pro Ser Ser Ser Asp Pro  
 595 600 605

Trp Thr Gly Arg Glu Leu Thr Asn Arg His Ser Leu Pro Phe Ser Leu  
 610 615 620

Pro Ser Gln Met Glu Pro Arg Pro Asp Val Pro Arg Leu Gly Ser Thr  
 625 630 635 640

Phe Ser Leu Asp Thr Ser Met Ser Met Asn Ser Ser Pro Leu Val Gly  
 645 650 655

Pro Glu Cys Asp His Pro Lys Ile Lys Pro Ser Ser Ser Ala Asn Ala  
 660 665 670

Ile Tyr Ser Leu Ala Ala Arg Pro Leu Pro Val Pro Lys Leu Pro Pro  
 675 680 685

Gly Glu Gln Cys Glu Gly Glu Glu Asp Thr Glu Phe Met Thr Pro Ser  
 690 695 700

Ser Arg Pro Leu Arg Pro Leu Asp Thr Ser Gln Ser Ser Arg Ala Cys  
 705 710 715 720

Asp Cys Asp Gln Gln Ile Asp Ser Cys Thr Tyr Glu Ala Met Tyr Asn  
 725 730 735

Ile Gln Ser Gln Ala Pro Ser Ile Thr Glu Ser Ser Thr Phe Gly Glu  
 740 745 750

Gly Asn Leu Ala Ala Ala His Ala Asn Thr Gly Pro Glu Glu Ser Glu  
755 760 765

Asn Glu Asp Asp Gly Tyr Asp Val Pro Lys Pro Pro Val Pro Ala Val  
770 775 780

Leu Ala Arg Arg Thr Leu Ser Asp Ile Ser Asn Ala Ser Ser Ser Phe  
785 790 795 800

Gly Trp Leu Ser Leu Asp Gly Asp Pro Thr Thr Asn Val Thr Glu Gly  
805 810 815

Ser Gln Val Pro Glu Arg Pro Pro Lys Pro Phe Pro Arg Arg Ile Asn  
820 825 830

Ser Glu Arg Lys Ala Gly Ser Cys Gln Gln Gly Ser Gly Pro Ala Ala  
835 840 845

Ser Ala Ala Thr Ala Ser Pro Gln Leu Ser Ser Glu Ile Glu Asn Leu  
850 855 860

Met Ser Gln Gly Tyr Ser Tyr Gln Asp Ile Gln Lys Ala Leu Val Ile  
865 870 875 880

Ala Gln Asn Asn Ile Glu Met Ala Lys Asn Ile Leu Arg Glu Phe Val  
885 890 895

Ser Ile Ser Ser Pro Ala His Val Ala Thr  
900 905

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<221> CDS  
<222> (1)..(2718)

<400> 253  
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Met Ala Gly Asn Val Lys Lys Ser Ser Gly Ala Gly Gly Gly Thr Gly  
1 5 10 15

48

tcc ggg ggc tcg ggt tcg ggt ggc ctg att ggg ctc atg aag gac gcc Ser Gly Gly Ser Gly Ser Gly Gly Leu Ile Gly Leu Met Lys Asp Ala 20 25 30	96
ttc cag ccg cac cac cac cac cac cac ctc agc ccc cac ccg ccg Phe Gln Pro His His His His His His His Leu Ser Pro His Pro Pro 35 40 45	144
ggg acg gtg gac aag aag atg gtg gag aag tgc tgg aag ctc atg gac Gly Thr Val Asp Lys Lys Met Val Glu Lys Cys Trp Lys Leu Met Asp 50 55 60	192
aag gtg gtg cgg ttg tgt cag aac cca aag ctg gcg cta aag aat agc Lys Val Val Arg Leu Cys Gln Asn Pro Lys Leu Ala Leu Lys Asn Ser 65 70 75 80	240
cca cct tat atc tta gac ctg cta cca gat acc tac cag cat ctc cgt Pro Pro Tyr Ile Leu Asp Leu Leu Pro Asp Thr Tyr Gln His Leu Arg 85 90 95	288
act atc ttg tca aga tat gag ggg aag atg gag aca ctt gga gaa aat Thr Ile Leu Ser Arg Tyr Glu Gly Lys Met Glu Thr Leu Gly Glu Asn 100 105 110	336
gag tat ttt agg gtg ttt atg gag aat ttg atg aag aaa act aag caa Glu Tyr Phe Arg Val Phe Met Glu Asn Leu Met Lys Lys Thr Lys Gln 115 120 125	384
acc ata agc ctc ttc aag gag gga aaa gaa aga atg tat gag gag aat Thr Ile Ser Leu Phe Lys Glu Gly Lys Glu Arg Met Tyr Glu Glu Asn 130 135 140	432
tct cag cct agg cga aac cta acc aaa ctg tcc ctc atc ttc agc cac Ser Gln Pro Arg Arg Asn Leu Thr Lys Leu Ser Leu Ile Phe Ser His 145 150 155 160	480
atg ctg gca gaa cta aaa gga atc ttt cca agt gga ctc ttt cag gga Met Leu Ala Glu Leu Lys Gly Ile Phe Pro Ser Gly Leu Phe Gln Gly 165 170 175	528
gac aca ttt cgg att act aaa gca gat gct gcg gaa ttt tgg aga aaa Asp Thr Phe Arg Ile Thr Lys Ala Asp Ala Ala Glu Phe Trp Arg Lys 180 185 190	576
gct ttt ggg gaa aag aca ata gtc cct tgg aag agc ttt cga cag gct Ala Phe Gly Glu Lys Thr Ile Val Pro Trp Lys Ser Phe Arg Gln Ala 195 200 205	624
cta cat gaa gtg cat ccc atc agt tct ggg ctg gag gcc atg gct ctg Leu His Glu Val His Pro Ile Ser Ser Gly Leu Glu Ala Met Ala Leu 210 215 220	672
aaa tcc act att gat ctg acc tgc aat gat tat att tcg gtt ttt gaa Lys Ser Thr Ile Asp Leu Thr Cys Asn Asp Tyr Ile Ser Val Phe Glu 225 230 235 240	720
ttt gac atc ttt acc cga ctc ttt cag ccc tgg tcc tct ttg ctc agg Phe Asp Ile Phe Thr Arg Leu Phe Gln Pro Trp Ser Ser Leu Leu Arg 245 250 255	768

aat tgg aac agc ctt gct gta act cat cct ggc tac atg gct ttt ttg Asn Trp Asn Ser Leu Ala Val Thr His Pro Gly Tyr Met Ala Phe Leu 260 265 270	816
acg tat gac gaa gtg aaa gct cgg ctc cag aaa ttc att cac aaa cct Thr Tyr Asp Glu Val Lys Ala Arg Leu Gln Lys Phe Ile His Lys Pro 275 280 285	864
ggc agt tat atc ttc cgg ctg agc tgt act cgt ctg ggt cag tgg gct Gly Ser Tyr Ile Phe Arg Leu Ser Cys Thr Arg Leu Gly Gln Trp Ala 290 295 300	912
att ggg tat gtt act gct gat ggg aac att ctc cag aca atc cct cac Ile Gly Tyr Val Thr Ala Asp Gly Asn Ile Leu Gln Thr Ile Pro His 305 310 315 320	960
aat aaa cct ctc ttc caa gca ctg att gat ggc ttc agg gaa ggc ttc Asn Lys Pro Leu Phe Gln Ala Leu Ile Asp Gly Phe Arg Glu Gly Phe 325 330 335	1008
tat ttg ttt cct gat gga cga aat cag aat cct gat ctg act ggc tta Tyr Leu Phe Pro Asp Gly Arg Asn Gln Asn Pro Asp Leu Thr Gly Leu 340 345 350	1056
tgt gaa cca act ccc caa gac cat atc aaa gtg acc cag gaa caa tat Cys Glu Pro Thr Pro Gln Asp His Ile Lys Val Thr Gln Glu Gln Tyr 355 360 365	1104
gaa tta tac tgt gag atg ggc tcc aca ttc caa cta tgt aaa ata tgt Glu Leu Tyr Cys Glu Met Gly Ser Thr Phe Gln Leu Cys Lys Ile Cys 370 375 380	1152
gct gaa aat gat aag gat gta aag att gag ccc tgt gga cac ctc atg Ala Glu Asn Asp Lys Asp Val Lys Ile Glu Pro Cys Gly His Leu Met 385 390 395 400	1200
tgc aca tcc tgt ctt aca tcc tgg cag gaa tca gaa ggt cag ggc tgt Cys Thr Ser Cys Leu Thr Ser Trp Gln Glu Ser Glu Gly Gln Gly Cys 405 410 415	1248
cct ttc tgc cga tgt gaa att aaa ggt act gaa ccc atc gtg gta gat Pro Phe Cys Arg Cys Glu Ile Lys Gly Thr Glu Pro Ile Val Val Asp 420 425 430	1296
ccg ttt gat cct aga ggg agt ggc agc ctg ttg agg caa gga gca gag Pro Phe Asp Pro Arg Gly Ser Gly Ser Leu Leu Arg Gln Gly Ala Glu 435 440 445	1344
gga gct ccc tcc cca aat tat gat gat gat gat gat gaa cga gct gat Gly Ala Pro Ser Pro Asn Tyr Asp Asp Asp Asp Asp Glu Arg Ala Asp 450 455 460	1392
gat act ctc ttc atg atg aag gaa ttg gct ggt gcc aag gtg gaa cgg Asp Thr Leu Phe Met Met Lys Glu Leu Ala Gly Ala Lys Val Glu Arg 465 470 475 480	1440
ccg cct tct cca ttc tcc atg gcc cca caa gct tcc ctt ccc ccg gtg Pro Pro Ser Pro Phe Ser Met Ala Pro Gln Ala Ser Leu Pro Pro Val 485 490 495	1488

cca cca cga ctt gac ctt ctg ccg cag cga gta tgt gtt ccc tca agt	1536
Pro Pro Arg Leu Asp Leu Leu Pro Gln Arg Val Cys Val Pro Ser Ser	
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gct tct gct ctt gga act gct tct aag gct gct tct ggc tcc ctt cat	1584
Ala Ser Ala Leu Gly Thr Ala Ser Lys Ala Ala Ser Gly Ser Leu His	
515 520 525	
aaa gac aaa cca ttg cca gta cct ccc aca ctt cga gat ctt cca cca	1632
Lys Asp Lys Pro Leu Pro Val Pro Pro Thr Leu Arg Asp Leu Pro Pro	
530 535 540	
cca ccg cct cca gac cgg cca tat tct gtt gga gca gaa tcc cga cct	1680
Pro Pro Pro Pro Asp Arg Pro Tyr Ser Val Gly Ala Glu Ser Arg Pro	
545 550 555 560	
caa aga cgc ccc ttg cct tgt aca cca ggc gac tgt ccc tcc aga gac	1728
Gln Arg Arg Pro Leu Pro Cys Thr Pro Gly Asp Cys Pro Ser Arg Asp	
565 570 575	
aaa ctg ccc cct gtc ccc tct agc cgc ctt gga gac tca tgg ctg ccc	1776
Lys Leu Pro Pro Val Pro Ser Ser Arg Leu Gly Asp Ser Trp Leu Pro	
580 585 590	
cgg cca atc ccc aaa gta cca gta tct gcc cca agt tcc agt gat ccc	1824
Arg Pro Ile Pro Lys Val Pro Val Ser Ala Pro Ser Ser Ser Asp Pro	
595 600 605	
tgg aca gga aga gaa tta acc aac cgg cac tca ctt cca ttt tca ttg	1872
Trp Thr Gly Arg Glu Leu Thr Asn Arg His Ser Leu Pro Phe Ser Leu	
610 615 620	
ccc tca caa atg gag ccc aga cca gat gtg cct agg ctc gga agc acg	1920
Pro Ser Gln Met Glu Pro Arg Pro Asp Val Pro Arg Leu Gly Ser Thr	
625 630 635 640	
ttc agt ctg gat acc tcc atg agt atg aat agc agc cca tta gta ggt	1968
Phe Ser Leu Asp Thr Ser Met Ser Met Asn Ser Ser Pro Leu Val Gly	
645 650 655	
cca gag tgt gac cac ccc aaa atc aaa cct tcc tca tct gcc aat gcc	2016
Pro Glu Cys Asp His Pro Lys Ile Lys Pro Ser Ser Ser Ala Asn Ala	
660 665 670	
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Ile Tyr Ser Leu Ala Ala Arg Pro Leu Pro Val Pro Lys Leu Pro Pro	
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ggg gag caa tgt gag ggt gaa gag gac aca gag tac atg act ccc tct	2112
Gly Glu Gln Cys Glu Gly Glu Glu Asp Thr Glu Tyr Met Thr Pro Ser	
690 695 700	
tcc agg cct cta cgg cct ttg gat aca tcc cag agt tca cga gca tgt	2160
Ser Arg Pro Leu Arg Pro Leu Asp Thr Ser Gln Ser Ser Arg Ala Cys	
705 710 715 720	
gat tgc gac cag cag att gat agc tgt acg ttt gaa gca atg tat aat	2208
Asp Cys Asp Gln Gln Ile Asp Ser Cys Thr Phe Glu Ala Met Tyr Asn	
725 730 735	

att cag tcc cag gcg cca tct atc acc gag agc agc acc ttt ggt gaa	2256
Ile Gln Ser Gln Ala Pro Ser Ile Thr Glu Ser Ser Thr Phe Gly Glu	
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ggg aat ttg gcc gca gcc cat gcc aac act ggt ccc gag gag tca gaa	2304
Gly Asn Leu Ala Ala Ala His Ala Asn Thr Gly Pro Glu Glu Ser Glu	
755 760 765	
aat gag gat gat ggg tat gat gtc cca aag cca cct gtg ccg gcc gtg	2352
Asn Glu Asp Asp Gly Tyr Asp Val Pro Lys Pro Pro Val Pro Ala Val	
770 775 780	
ctg gcc cgc cga act ctc tca gat atc tct aat gcc agc tcc tcc ttt	2400
Leu Ala Arg Arg Thr Leu Ser Asp Ile Ser Asn Ala Ser Ser Ser Phe	
785 790 795	800
ggc tgg ttg tct ctg gat ggt gat cct aca aca aat gtc act gaa ggt	2448
Gly Trp Leu Ser Leu Asp Gly Asp Pro Thr Thr Asn Val Thr Glu Gly	
805 810 815	
tcc caa gtt ccc gag agg cct cca aaa cca ttc ccg cgg aga atc aac	2496
Ser Gln Val Pro Glu Arg Pro Pro Lys Pro Phe Pro Arg Arg Ile Asn	
820 825 830	
tct gaa cgg aaa gct ggc agc tgt cag caa ggt agt ggt cct gcc gcc	2544
Ser Glu Arg Lys Ala Gly Ser Cys Gln Gln Gly Ser Gly Pro Ala Ala	
835 840 845	
tct gct gcc acc gcc tca cct cag ctc tcc agt gag atc gag aac ctc	2592
Ser Ala Ala Thr Ala Ser Pro Gln Leu Ser Ser Glu Ile Glu Asn Leu	
850 855 860	
atg agt cag ggg tac tcc tac cag gac atc cag aaa gct ttg gtc att	2640
Met Ser Gln Gly Tyr Ser Tyr Gln Asp Ile Gln Lys Ala Leu Val Ile	
865 870 875	880
gcc cag aac aac atc gag atg gcc aaa aac atc ctc cgg gaa ttt gtt	2688
Ala Gln Asn Asn Ile Glu Met Ala Lys Asn Ile Leu Arg Glu Phe Val	
885 890 895	
tcc att tct tct cct gcc cat gta gct acc tag	2721
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900 905	

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<211> 906

<212> PRT

<213> artificial

<220>

<223> Synthetic Construct

<400> 254

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Ser Gly Gly Ser Gly Ser Gly Gly Leu Ile Gly Leu Met Lys Asp Ala

20

25

30

Phe Gln Pro His His His His His His His Leu Ser Pro His Pro Pro  
35 40 45

Gly Thr Val Asp Lys Lys Met Val Glu Lys Cys Trp Lys Leu Met Asp  
50 55 60

Lys Val Val Arg Leu Cys Gln Asn Pro Lys Leu Ala Leu Lys Asn Ser  
65 70 75 80

Pro Pro Tyr Ile Leu Asp Leu Leu Pro Asp Thr Tyr Gln His Leu Arg  
85 90 95

Thr Ile Leu Ser Arg Tyr Glu Gly Lys Met Glu Thr Leu Gly Glu Asn  
100 105 110

Glu Tyr Phe Arg Val Phe Met Glu Asn Leu Met Lys Lys Thr Lys Gln  
115 120 125

Thr Ile Ser Leu Phe Lys Glu Gly Lys Glu Arg Met Tyr Glu Glu Asn  
130 135 140

Ser Gln Pro Arg Arg Asn Leu Thr Lys Leu Ser Leu Ile Phe Ser His  
145 150 155 160

Met Leu Ala Glu Leu Lys Gly Ile Phe Pro Ser Gly Leu Phe Gln Gly  
165 170 175

Asp Thr Phe Arg Ile Thr Lys Ala Asp Ala Ala Glu Phe Trp Arg Lys  
180 185 190

Ala Phe Gly Glu Lys Thr Ile Val Pro Trp Lys Ser Phe Arg Gln Ala  
195 200 205

Leu His Glu Val His Pro Ile Ser Ser Gly Leu Glu Ala Met Ala Leu  
210 215 220

Lys Ser Thr Ile Asp Leu Thr Cys Asn Asp Tyr Ile Ser Val Phe Glu  
225 230 235 240

Phe Asp Ile Phe Thr Arg Leu Phe Gln Pro Trp Ser Ser Leu Leu Arg  
245 250 255

Asn Trp Asn Ser Leu Ala Val Thr His Pro Gly Tyr Met Ala Phe Leu

260

265

270

Thr Tyr Asp Glu Val Lys Ala Arg Leu Gln Lys Phe Ile His Lys Pro  
 275 280 285

Gly Ser Tyr Ile Phe Arg Leu Ser Cys Thr Arg Leu Gly Gln Trp Ala  
 290 295 300

Ile Gly Tyr Val Thr Ala Asp Gly Asn Ile Leu Gln Thr Ile Pro His  
 305 310 315 320

Asn Lys Pro Leu Phe Gln Ala Leu Ile Asp Gly Phe Arg Glu Gly Phe  
 325 330 335

Tyr Leu Phe Pro Asp Gly Arg Asn Gln Asn Pro Asp Leu Thr Gly Leu  
 340 345 350

Cys Glu Pro Thr Pro Gln Asp His Ile Lys Val Thr Gln Glu Gln Tyr  
 355 360 365

Glu Leu Tyr Cys Glu Met Gly Ser Thr Phe Gln Leu Cys Lys Ile Cys  
 370 375 380

Ala Glu Asn Asp Lys Asp Val Lys Ile Glu Pro Cys Gly His Leu Met  
 385 390 395 400

Cys Thr Ser Cys Leu Thr Ser Trp Gln Glu Ser Glu Gly Gln Gly Cys  
 405 410 415

Pro Phe Cys Arg Cys Glu Ile Lys Gly Thr Glu Pro Ile Val Val Asp  
 420 425 430

Pro Phe Asp Pro Arg Gly Ser Gly Ser Leu Leu Arg Gln Gly Ala Glu  
 435 440 445

Gly Ala Pro Ser Pro Asn Tyr Asp Asp Asp Asp Asp Glu Arg Ala Asp  
 450 455 460

Asp Thr Leu Phe Met Met Lys Glu Leu Ala Gly Ala Lys Val Glu Arg  
 465 470 475 480

Pro Pro Ser Pro Phe Ser Met Ala Pro Gln Ala Ser Leu Pro Pro Val  
 485 490 495

Pro Pro Arg Leu Asp Leu Leu Pro Gln Arg Val Cys Val Pro Ser Ser



500

505

510

Ala Ser Ala Leu Gly Thr Ala Ser Lys Ala Ala Ser Gly Ser Leu His  
515 520 525

Lys Asp Lys Pro Leu Pro Val Pro Pro Thr Leu Arg Asp Leu Pro Pro  
530 535 540

Pro Pro Pro Pro Asp Arg Pro Tyr Ser Val Gly Ala Glu Ser Arg Pro  
545 550 555 560

Gln Arg Arg Pro Leu Pro Cys Thr Pro Gly Asp Cys Pro Ser Arg Asp  
565 570 575

Lys Leu Pro Pro Val Pro Ser Ser Arg Leu Gly Asp Ser Trp Leu Pro  
580 585 590

Arg Pro Ile Pro Lys Val Pro Val Ser Ala Pro Ser Ser Ser Asp Pro  
595 600 605

Trp Thr Gly Arg Glu Leu Thr Asn Arg His Ser Leu Pro Phe Ser Leu  
610 615 620

Pro Ser Gln Met Glu Pro Arg Pro Asp Val Pro Arg Leu Gly Ser Thr  
625 630 635 640

Phe Ser Leu Asp Thr Ser Met Ser Met Asn Ser Ser Pro Leu Val Gly  
645 650 655

Pro Glu Cys Asp His Pro Lys Ile Lys Pro Ser Ser Ser Ala Asn Ala  
660 665 670

Ile Tyr Ser Leu Ala Ala Arg Pro Leu Pro Val Pro Lys Leu Pro Pro  
675 680 685

Gly Glu Gln Cys Glu Gly Glu Glu Asp Thr Glu Tyr Met Thr Pro Ser  
690 695 700

Ser Arg Pro Leu Arg Pro Leu Asp Thr Ser Gln Ser Ser Arg Ala Cys  
705 710 715 720

Asp Cys Asp Gln Gln Ile Asp Ser Cys Thr Phe Glu Ala Met Tyr Asn  
725 730 735

Ile Gln Ser Gln Ala Pro Ser Ile Thr Glu Ser Ser Thr Phe Gly Glu

740

745

750

Gly Asn Leu Ala Ala Ala His Ala Asn Thr Gly Pro Glu Glu Ser Glu  
755 760 765

Asn Glu Asp Asp Gly Tyr Asp Val Pro Lys Pro Pro Val Pro Ala Val  
770 775 780

Leu Ala Arg Arg Thr Leu Ser Asp Ile Ser Asn Ala Ser Ser Ser Phe  
785 790 795 800

Gly Trp Leu Ser Leu Asp Gly Asp Pro Thr Thr Asn Val Thr Glu Gly  
805 810 815

Ser Gln Val Pro Glu Arg Pro Pro Lys Pro Phe Pro Arg Arg Ile Asn  
820 825 830

Ser Glu Arg Lys Ala Gly Ser Cys Gln Gln Gly Ser Gly Pro Ala Ala  
835 840 845

Ser Ala Ala Thr Ala Ser Pro Gln Leu Ser Ser Glu Ile Glu Asn Leu  
850 855 860

Met Ser Gln Gly Tyr Ser Tyr Gln Asp Ile Gln Lys Ala Leu Val Ile  
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48

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ttc cag ccg cac cac cac cac cac cac ctc agc ccc cac ccg ccg Phe Gln Pro His His His His His His His Leu Ser Pro His Pro Pro 35 40 45	144
ggg acg gtg gac aag aag atg gtg gag aag tgc tgg aag ctc atg gac Gly Thr Val Asp Lys Lys Met Val Glu Lys Cys Trp Lys Leu Met Asp 50 55 60	192
aag gtg gtg cgg ttg tgt cag aac cca aag ctg gcg cta aag aat agc Lys Val Val Arg Leu Cys Gln Asn Pro Lys Leu Ala Leu Lys Asn Ser 65 70 75 80	240
cca cct tat atc tta gac ctg cta cca gat acc tac cag cat ctc cgt Pro Pro Tyr Ile Leu Asp Leu Leu Pro Asp Thr Tyr Gln His Leu Arg 85 90 95	288
act atc ttg tca aga tat gag ggg aag atg gag aca ctt gga gaa aat Thr Ile Leu Ser Arg Tyr Glu Gly Lys Met Glu Thr Leu Gly Glu Asn 100 105 110	336
gag tat ttt agg gtg ttt atg gag aat ttg atg aag aaa act aag caa Glu Tyr Phe Arg Val Phe Met Glu Asn Leu Met Lys Lys Thr Lys Gln 115 120 125	384
acc ata agc ctc ttc aag gag gga aaa gaa aga atg tat gag gag aat Thr Ile Ser Leu Phe Lys Glu Gly Lys Glu Arg Met Tyr Glu Glu Asn 130 135 140	432
tct cag cct agg cga aac cta acc aaa ctg tcc ctc atc ttc agc cac Ser Gln Pro Arg Arg Asn Leu Thr Lys Leu Ser Leu Ile Phe Ser His 145 150 155 160	480
atg ctg gca gaa cta aaa gga atc ttt cca agt gga ctc ttt cag gga Met Leu Ala Glu Leu Lys Gly Ile Phe Pro Ser Gly Leu Phe Gln Gly 165 170 175	528
gac aca ttt cgg att act aaa gca gat gct gcg gaa ttt tgg aga aaa Asp Thr Phe Arg Ile Thr Lys Ala Asp Ala Ala Glu Phe Trp Arg Lys 180 185 190	576
gct ttt ggg gaa aag aca ata gtc cct tgg aag agc ttt cga cag gct Ala Phe Gly Glu Lys Thr Ile Val Pro Trp Lys Ser Phe Arg Gln Ala 195 200 205	624
cta cat gaa gtg cat ccc atc agt tct ggg ctg gag gcc atg gct ctg Leu His Glu Val His Pro Ile Ser Ser Gly Leu Glu Ala Met Ala Leu 210 215 220	672
aaa tcc act att gat ctg acc tgc aat gat tat att tcg gtt ttt gaa Lys Ser Thr Ile Asp Leu Thr Cys Asn Asp Tyr Ile Ser Val Phe Glu 225 230 235 240	720
ttt gac atc ttt acc cga ctc ttt cag ccc tgg tcc tct ttg ctc agg Phe Asp Ile Phe Thr Arg Leu Phe Gln Pro Trp Ser Ser Leu Leu Arg 245 250 255	768

aat tgg aac agc ctt gct gta act cat cct ggc tac atg gct ttt ttg Asn Trp Asn Ser Leu Ala Val Thr His Pro Gly Tyr Met Ala Phe Leu 260 265 270	816
acg tat gac gaa gtg aaa gct cgg ctc cag aaa ttc att cac aaa cct Thr Tyr Asp Glu Val Lys Ala Arg Leu Gln Lys Phe Ile His Lys Pro 275 280 285	864
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tat ttg ttt cct gat gga cga aat cag aat cct gat ctg act ggc tta Tyr Leu Phe Pro Asp Gly Arg Asn Gln Asn Pro Asp Leu Thr Gly Leu 340 345 350	1056
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gaa tta tac tgt gag atg ggc tcc aca ttc caa cta tgt aaa ata tgt Glu Leu Tyr Cys Glu Met Ser Thr Phe Gln Leu Cys Lys Ile Cys 370 375 380	1152
gct gaa aat gat aag gat gta aag att gag ccc tgt gga cac ctc atg Ala Glu Asn Asp Lys Asp Val Lys Ile Glu Pro Cys Gly His Leu Met 385 390 395 400	1200
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cct ttc tgc cga tgt gaa att aaa ggt act gaa ccc atc gtg gta gat Pro Phe Cys Arg Cys Glu Ile Lys Gly Thr Glu Pro Ile Val Val Asp 420 425 430	1296
ccg ttt gat cct aga ggg agt ggc agc ctg ttg agg caa gga gca gag Pro Phe Asp Pro Arg Gly Ser Gly Ser Leu Leu Arg Gln Gly Ala Glu 435 440 445	1344
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Pro Pro Arg Leu Asp Leu Leu Pro Gln Arg Val Cys Val Pro Ser Ser	
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Ala Ser Ala Leu Gly Thr Ala Ser Lys Ala Ala Ser Gly Ser Leu His	
515 520 525	
aaa gac aaa cca ttg cca gta cct ccc aca ctt cga gat ctt cca cca	1632
Lys Asp Lys Pro Leu Pro Val Pro Pro Thr Leu Arg Asp Leu Pro Pro	
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cca ccg cct cca gac cgg cca tat tct gtt gga gca gaa tcc cga cct	1680
Pro Pro Pro Pro Asp Arg Pro Tyr Ser Val Gly Ala Glu Ser Arg Pro	
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Gln Arg Arg Pro Leu Pro Cys Thr Pro Gly Asp Cys Pro Ser Arg Asp	
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Lys Leu Pro Pro Val Pro Ser Ser Arg Leu Gly Asp Ser Trp Leu Pro	
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Arg Pro Ile Pro Lys Val Pro Val Ser Ala Pro Ser Ser Ser Asp Pro	
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Trp Thr Gly Arg Glu Leu Thr Asn Arg His Ser Leu Pro Phe Ser Leu	
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ccc tca caa atg gag ccc aga cca gat gtg cct agg ctc gga agc acg	1920
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Ile Tyr Ser Leu Ala Ala Arg Pro Leu Pro Val Pro Lys Leu Pro Pro	
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Gly Glu Gln Cys Glu Gly Glu Glu Asp Thr Glu Tyr Met Thr Pro Ser	
690 695 700	
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Ser Arg Pro Leu Arg Pro Leu Asp Thr Ser Gln Ser Ser Arg Ala Cys	
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gat tgc gac cag cag att gat agc tgt acg tat gaa gca atg tat aat	2208
Asp Cys Asp Gln Gln Ile Asp Ser Cys Thr Tyr Glu Ala Met Tyr Asn	
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aat gag gat gat ggg ttt gat gtc cca aag cca cct gtg ccg gcc gtg Asn Glu Asp Asp Gly Phe Asp Val Pro Lys Pro Pro Val Pro Ala Val 770 775 780	2352
ctg gcc cgc cga act ctc tca gat atc tct aat gcc agc tcc tcc ttt Leu Ala Arg Arg Thr Leu Ser Asp Ile Ser Asn Ala Ser Ser Ser Phe 785 790 795 800	2400
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gcc cag aac aac atc gag atg gcc aaa aac atc ctc cgg gaa ttt gtt Ala Gln Asn Asn Ile Glu Met Ala Lys Asn Ile Leu Arg Glu Phe Val 885 890 895	2688
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Phe Gln Pro His His His His His His His Leu Ser Pro His Pro Pro  
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Gly Thr Val Asp Lys Lys Met Val Glu Lys Cys Trp Lys Leu Met Asp  
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Lys Val Val Arg Leu Cys Gln Asn Pro Lys Leu Ala Leu Lys Asn Ser  
 65 70 75 80

Pro Pro Tyr Ile Leu Asp Leu Leu Pro Asp Thr Tyr Gln His Leu Arg  
 85 90 95

Thr Ile Leu Ser Arg Tyr Glu Gly Lys Met Glu Thr Leu Gly Glu Asn  
 100 105 110

Glu Tyr Phe Arg Val Phe Met Glu Asn Leu Met Lys Lys Thr Lys Gln  
 115 120 125

Thr Ile Ser Leu Phe Lys Glu Gly Lys Glu Arg Met Tyr Glu Glu Asn  
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Ser Gln Pro Arg Arg Asn Leu Thr Lys Leu Ser Leu Ile Phe Ser His  
 145 150 155 160

Met Leu Ala Glu Leu Lys Gly Ile Phe Pro Ser Gly Leu Phe Gln Gly  
 165 170 175

Asp Thr Phe Arg Ile Thr Lys Ala Asp Ala Ala Glu Phe Trp Arg Lys  
 180 185 190

Ala Phe Gly Glu Lys Thr Ile Val Pro Trp Lys Ser Phe Arg Gln Ala  
 195 200 205

Leu His Glu Val His Pro Ile Ser Ser Gly Leu Glu Ala Met Ala Leu  
 210 215 220

Lys Ser Thr Ile Asp Leu Thr Cys Asn Asp Tyr Ile Ser Val Phe Glu  
 225 230 235 240

Phe Asp Ile Phe Thr Arg Leu Phe Gln Pro Trp Ser Ser Leu Leu Arg  
 245 250 255

Asn Trp Asn Ser Leu Ala Val Thr His Pro Gly Tyr Met Ala Phe Leu  
 260 265 270  
 Thr Tyr Asp Glu Val Lys Ala Arg Leu Gln Lys Phe Ile His Lys Pro  
 275 280 285  
 Gly Ser Tyr Ile Phe Arg Leu Ser Cys Thr Arg Leu Gly Gln Trp Ala  
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 Ile Gly Tyr Val Thr Ala Asp Gly Asn Ile Leu Gln Thr Ile Pro His  
 305 310 315 320  
 Asn Lys Pro Leu Phe Gln Ala Leu Ile Asp Gly Phe Arg Glu Gly Phe  
 325 330 335  
 Tyr Leu Phe Pro Asp Gly Arg Asn Gln Asn Pro Asp Leu Thr Gly Leu  
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 Cys Glu Pro Thr Pro Gln Asp His Ile Lys Val Thr Gln Glu Gln Tyr  
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 Glu Leu Tyr Cys Glu Met Gly Ser Thr Phe Gln Leu Cys Lys Ile Cys  
 370 375 380  
 Ala Glu Asn Asp Lys Asp Val Lys Ile Glu Pro Cys Gly His Leu Met  
 385 390 395 400  
 Cys Thr Ser Cys Leu Thr Ser Trp Gln Glu Ser Glu Gly Gln Gly Cys  
 405 410 415  
 Pro Phe Cys Arg Cys Glu Ile Lys Gly Thr Glu Pro Ile Val Val Asp  
 420 425 430  
 Pro Phe Asp Pro Arg Gly Ser Gly Ser Leu Leu Arg Gln Gly Ala Glu  
 435 440 445  
 Gly Ala Pro Ser Pro Asn Tyr Asp Asp Asp Asp Asp Glu Arg Ala Asp  
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 Asp Thr Leu Phe Met Met Lys Glu Leu Ala Gly Ala Lys Val Glu Arg  
 465 470 475 480  
 Pro Pro Ser Pro Phe Ser Met Ala Pro Gln Ala Ser Leu Pro Pro Val  
 485 490 495



Pro Pro Arg Leu Asp Leu Leu Pro Gln Arg Val Cys Val Pro Ser Ser  
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Ala Ser Ala Leu Gly Thr Ala Ser Lys Ala Ala Ser Gly Ser Leu His  
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Lys Asp Lys Pro Leu Pro Val Pro Pro Thr Leu Arg Asp Leu Pro Pro  
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Pro Pro Pro Pro Asp Arg Pro Tyr Ser Val Gly Ala Glu Ser Arg Pro  
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Gln Arg Arg Pro Leu Pro Cys Thr Pro Gly Asp Cys Pro Ser Arg Asp  
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Lys Leu Pro Pro Val Pro Ser Ser Arg Leu Gly Asp Ser Trp Leu Pro  
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Arg Pro Ile Pro Lys Val Pro Val Ser Ala Pro Ser Ser Ser Asp Pro  
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Trp Thr Gly Arg Glu Leu Thr Asn Arg His Ser Leu Pro Phe Ser Leu  
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Phe Ser Leu Asp Thr Ser Met Ser Met Asn Ser Ser Pro Leu Val Gly  
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Pro Glu Cys Asp His Pro Lys Ile Lys Pro Ser Ser Ser Ala Asn Ala  
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Ile Tyr Ser Leu Ala Ala Arg Pro Leu Pro Val Pro Lys Leu Pro Pro  
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Gly Glu Gln Cys Glu Gly Glu Glu Asp Thr Glu Tyr Met Thr Pro Ser  
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Ser Arg Pro Leu Arg Pro Leu Asp Thr Ser Gln Ser Ser Arg Ala Cys  
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Asp Cys Asp Gln Gln Ile Asp Ser Cys Thr Tyr Glu Ala Met Tyr Asn  
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Ile Gln Ser Gln Ala Pro Ser Ile Thr Glu Ser Ser Thr Phe Gly Glu  
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Gly Asn Leu Ala Ala Ala His Ala Asn Thr Gly Pro Glu Glu Ser Glu  
755 760 765

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770 775 780

Leu Ala Arg Arg Thr Leu Ser Asp Ile Ser Asn Ala Ser Ser Ser Phe  
785 790 795 800

Gly Trp Leu Ser Leu Asp Gly Asp Pro Thr Thr Asn Val Thr Glu Gly  
805 810 815

Ser Gln Val Pro Glu Arg Pro Pro Lys Pro Phe Pro Arg Arg Ile Asn  
820 825 830

Ser Glu Arg Lys Ala Gly Ser Cys Gln Gln Gly Ser Gly Pro Ala Ala  
835 840 845

Ser Ala Ala Thr Ala Ser Pro Gln Leu Ser Ser Glu Ile Glu Asn Leu  
850 855 860

Met Ser Gln Gly Tyr Ser Tyr Gln Asp Ile Gln Lys Ala Leu Val Ile  
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Ser Ile Ser Ser Pro Ala His Val Ala Thr  
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Ser Gly Gly Ser Gly Ser Gly Gly Leu Ile Gly Leu Met Lys Asp Ala	20	25	30	
ttc cag ccg cac cac cac cac cac cac ctc agc ccc cac ccg ccg				144
Phe Gln Pro His His His His His His His Leu Ser Pro His Pro Pro	35	40	45	
ggg acg gtg gac aag aag atg gtg gag aag tgc tgg aag ctc atg gac				192
Gly Thr Val Asp Lys Lys Met Val Glu Lys Cys Trp Lys Leu Met Asp	50	55	60	
aag gtg gtg cgg ttg tgt cag aac cca aag ctg gcg cta aag aat agc				240
Lys Val Val Arg Leu Cys Gln Asn Pro Lys Leu Ala Leu Lys Asn Ser	65	70	75	80
cca cct tat atc tta gac ctg cta cca gat acc tac cag cat ctc cgt				288
Pro Pro Tyr Ile Leu Asp Leu Leu Pro Asp Thr Tyr Gln His Leu Arg	85	90	95	
act atc ttg tca aga tat gag ggg aag atg gag aca ctt gga gaa aat				336
Thr Ile Leu Ser Arg Tyr Glu Gly Lys Met Glu Thr Leu Gly Glu Asn	100	105	110	
gag tat ttt agg gtg ttt atg gag aat ttg atg aag aaa act aag caa				384
Glu Tyr Phe Arg Val Phe Met Glu Asn Leu Met Lys Lys Thr Lys Gln	115	120	125	
acc ata agc ctc ttc aag gag gga aaa gaa aga atg tat gag gag aat				432
Thr Ile Ser Leu Phe Lys Glu Gly Lys Glu Arg Met Tyr Glu Glu Asn	130	135	140	
tct cag cct agg cga aac cta acc aaa ctg tcc ctc atc ttc agc cac				480
Ser Gln Pro Arg Arg Asn Leu Thr Lys Leu Ser Leu Ile Phe Ser His	145	150	155	160
atg ctg gca gaa cta aaa gga atc ttt cca agt gga ctc ttt cag gga				528
Met Leu Ala Glu Leu Lys Gly Ile Phe Pro Ser Gly Leu Phe Gln Gly	165	170	175	
gac aca ttt cgg att act aaa gca gat gct gcg gaa ttt tgg aga aaa				576
Asp Thr Phe Arg Ile Thr Lys Ala Asp Ala Ala Glu Phe Trp Arg Lys	180	185	190	
gct ttt ggg gaa aag aca ata gtc cct tgg aag agc ttt cga cag gct				624
Ala Phe Gly Glu Lys Thr Ile Val Pro Trp Lys Ser Phe Arg Gln Ala	195	200	205	
cta cat gaa gtg cat ccc atc agt tct ggg ctg gag gcc atg gct ctg				672
Leu His Glu Val His Pro Ile Ser Ser Gly Leu Glu Ala Met Ala Leu	210	215	220	
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Lys Ser Thr Ile Asp Leu Thr Cys Asn Asp Tyr Ile Ser Val Phe Glu	225	230	235	240
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Phe Asp Ile Phe Thr Arg Leu Phe Gln Pro Trp Ser Ser Leu Leu Arg				

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Tyr	Leu	Phe	Pro	Asp	Gly	Arg	Asn	Gln	Asn	Pro	Asp	Leu	Thr	Gly	Leu															
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		355					360					365																		
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Cys	Thr	Ser	Cys	Leu	Thr	Ser	Trp	Gln	Glu	Ser	Glu	Gly	Gln	Gly	Cys															
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Pro	Phe	Cys	Arg	Cys	Glu	Ile	Lys	Gly	Thr	Glu	Pro	Ile	Val	Val	Asp															
			420					425					430																	
ccg	ttt	gat	cct	aga	ggg	agt	ggc	agc	ctg	ttg	agg	caa	gga	gca	gag	1344														
Pro	Phe	Asp	Pro	Arg	Gly	Ser	Gly	Ser	Leu	Leu	Arg	Gln	Gly	Ala	Glu															
		435					440					445																		
gga	gct	ccc	tcc	cca	aat	tat	gat	gat	gat	gat	gat	gaa	cga	gct	gat	1392														
Gly	Ala	Pro	Ser	Pro	Asn	Tyr	Asp	Asp	Asp	Asp	Asp	Glu	Arg	Ala	Asp															
	450					455					460																			
gat	act	ctc	ttc	atg	atg	aag	gaa	ttg	gct	ggt	gcc	aag	gtg	gaa	cgg	1440														
Asp	Thr	Leu	Phe	Met	Met	Lys	Glu	Leu	Ala	Gly	Ala	Lys	Val	Glu	Arg															
465					470					475					480															
ccg	cct	tct	cca	ttc	tcc	atg	gcc	cca	caa	gct	tcc	ctt	ccc	ccg	gtg	1488														
Pro	Pro	Ser	Pro	Phe	Ser	Met	Ala	Pro	Gln	Ala	Ser	Leu	Pro	Pro	Val															

485										490					495					
cca	cca	cga	ctt	gac	ctt	ctg	ccg	cag	cga	gta	tgt	gtt	ccc	tca	agt	1536				
Pro	Pro	Arg	Leu	Asp	Leu	Leu	Pro	Gln	Arg	Val	Cys	Val	Pro	Ser	Ser					
			500					505					510							
gct	tct	gct	ctt	gga	act	gct	tct	aag	gct	gct	tct	ggc	tcc	ctt	cat	1584				
Ala	Ser	Ala	Leu	Gly	Thr	Ala	Ser	Lys	Ala	Ala	Ser	Gly	Ser	Leu	His					
		515						520				525								
aaa	gac	aaa	cca	ttg	cca	gta	cct	ccc	aca	ctt	cga	gat	ctt	cca	cca	1632				
Lys	Asp	Lys	Pro	Leu	Pro	Val	Pro	Pro	Thr	Leu	Arg	Asp	Leu	Pro	Pro					
	530					535					540									
cca	ccg	cct	cca	gac	cgg	cca	tat	tct	gtt	gga	gca	gaa	tcc	cga	cct	1680				
Pro	Pro	Pro	Pro	Asp	Arg	Pro	Tyr	Ser	Val	Gly	Ala	Glu	Ser	Arg	Pro					
545					550					555					560					
caa	aga	cgc	ccc	ttg	cct	tgt	aca	cca	ggc	gac	tgt	ccc	tcc	aga	gac	1728				
Gln	Arg	Arg	Pro	Leu	Pro	Cys	Thr	Pro	Gly	Asp	Cys	Pro	Ser	Arg	Asp					
			565						570					575						
aaa	ctg	ccc	cct	gtc	ccc	tct	agc	cgc	ctt	gga	gac	tca	tgg	ctg	ccc	1776				
Lys	Leu	Pro	Pro	Val	Pro	Ser	Ser	Arg	Leu	Gly	Asp	Ser	Trp	Leu	Pro					
			580					585					590							
cgg	cca	atc	ccc	aaa	gta	cca	gta	tct	gcc	cca	agt	tcc	agt	gat	ccc	1824				
Arg	Pro	Ile	Pro	Lys	Val	Pro	Val	Ser	Ala	Pro	Ser	Ser	Ser	Asp	Pro					
		595					600					605								
tgg	aca	gga	aga	gaa	tta	acc	aac	cgg	cac	tca	ctt	cca	ttt	tca	ttg	1872				
Trp	Thr	Gly	Arg	Glu	Leu	Thr	Asn	Arg	His	Ser	Leu	Pro	Phe	Ser	Leu					
	610					615					620									
ccc	tca	caa	atg	gag	ccc	aga	cca	gat	gtg	cct	agg	ctc	gga	agc	acg	1920				
Pro	Ser	Gln	Met	Glu	Pro	Arg	Pro	Asp	Val	Pro	Arg	Leu	Gly	Ser	Thr					
625					630					635					640					
ttc	agt	ctg	gat	acc	tcc	atg	agt	atg	aat	agc	agc	cca	tta	gta	ggc	1968				
Phe	Ser	Leu	Asp	Thr	Ser	Met	Ser	Met	Asn	Ser	Ser	Pro	Leu	Val	Gly					
				645					650					655						
cca	gag	tgt	gac	cac	ccc	aaa	atc	aaa	cct	tcc	tca	tct	gcc	aat	gcc	2016				
Pro	Glu	Cys	Asp	His	Pro	Lys	Ile	Lys	Pro	Ser	Ser	Ser	Ala	Asn	Ala					
			660					665					670							
att	tat	tct	ctg	gct	gcc	aga	cct	ctt	cct	gtg	cca	aaa	ctg	cca	cct	2064				
Ile	Tyr	Ser	Leu	Ala	Ala	Arg	Pro	Leu	Pro	Val	Pro	Lys	Leu	Pro	Pro					
		675					680					685								
ggg	gag	caa	tgt	gag	ggc	gaa	gag	gac	aca	gag	ttc	atg	act	ccc	tct	2112				
Gly	Glu	Gln	Cys	Glu	Gly	Glu	Glu	Asp	Thr	Glu	Phe	Met	Thr	Pro	Ser					
	690					695					700									
tcc	agg	cct	cta	cgg	cct	ttg	gat	aca	tcc	cag	agt	tca	cga	gca	tgt	2160				
Ser	Arg	Pro	Leu	Arg	Pro	Leu	Asp	Thr	Ser	Gln	Ser	Ser	Arg	Ala	Cys					
705					710					715					720					
gat	tgc	gac	cag	cag	att	gat	agc	tgt	acg	ttt	gaa	gca	atg	tat	aat	2208				
Asp	Cys	Asp	Gln	Gln	Ile	Asp	Ser	Cys	Thr	Phe	Glu	Ala	Met	Tyr	Asn					

725										730					735					
att	cag	tcc	cag	gcg	cca	tct	atc	acc	gag	agc	agc	acc	ttt	ggt	gaa	2256				
Ile	Gln	Ser	Gln	Ala	Pro	Ser	Ile	Thr	Glu	Ser	Ser	Thr	Phe	Gly	Glu					
			740					745					750							
ggg	aat	ttg	gcc	gca	gcc	cat	gcc	aac	act	ggt	ccc	gag	gag	tca	gaa	2304				
Gly	Asn	Leu	Ala	Ala	Ala	His	Ala	Asn	Thr	Gly	Pro	Glu	Glu	Ser	Glu					
		755					760					765								
aat	gag	gat	gat	ggg	ttt	gat	gtc	cca	aag	cca	cct	gtg	ccg	gcc	gtg	2352				
Asn	Glu	Asp	Asp	Gly	Phe	Asp	Val	Pro	Lys	Pro	Pro	Val	Pro	Ala	Val					
	770					775					780									
ctg	gcc	cgc	cga	act	ctc	tca	gat	atc	tct	aat	gcc	agc	tcc	tcc	ttt	2400				
Leu	Ala	Arg	Arg	Thr	Leu	Ser	Asp	Ile	Ser	Asn	Ala	Ser	Ser	Ser	Phe					
785					790					795					800					
ggc	tgg	ttg	tct	ctg	gat	ggt	gat	cct	aca	aca	aat	gtc	act	gaa	ggt	2448				
Gly	Trp	Leu	Ser	Leu	Asp	Gly	Asp	Pro	Thr	Thr	Asn	Val	Thr	Glu	Gly					
			805						810					815						
tcc	caa	gtt	ccc	gag	agg	cct	cca	aaa	cca	ttc	ccg	cgg	aga	atc	aac	2496				
Ser	Gln	Val	Pro	Glu	Arg	Pro	Pro	Lys	Pro	Phe	Pro	Arg	Arg	Ile	Asn					
			820					825					830							
tct	gaa	cgg	aaa	gct	ggc	agc	tgt	cag	caa	ggt	agt	ggt	cct	gcc	gcc	2544				
Ser	Glu	Arg	Lys	Ala	Gly	Ser	Cys	Gln	Gln	Gly	Ser	Gly	Pro	Ala	Ala					
	835					840						845								
tct	gct	gcc	acc	gcc	tca	cct	cag	ctc	tcc	agt	gag	atc	gag	aac	ctc	2592				
Ser	Ala	Ala	Thr	Ala	Ser	Pro	Gln	Leu	Ser	Ser	Glu	Ile	Glu	Asn	Leu					
	850					855					860									
atg	agt	cag	ggg	tac	tcc	tac	cag	gac	atc	cag	aaa	gct	ttg	gtc	att	2640				
Met	Ser	Gln	Gly	Tyr	Ser	Tyr	Gln	Asp	Ile	Gln	Lys	Ala	Leu	Val	Ile					
865					870				875						880					
gcc	cag	aac	aac	atc	gag	atg	gcc	aaa	aac	atc	ctc	cgg	gaa	ttt	gtt	2688				
Ala	Gln	Asn	Asn	Ile	Glu	Met	Ala	Lys	Asn	Ile	Leu	Arg	Glu	Phe	Val					
			885						890					895						
tcc	att	tct	tct	cct	gcc	cat	gta	gct	acc	tag						2721				
Ser	Ile	Ser	Ser	Pro	Ala	His	Val	Ala	Thr											
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 <213> artificial

<220>  
 <223> Synthetic Construct

<400> 258

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 20 25 30  
 Phe Gln Pro His His His His His His His Leu Ser Pro His Pro Pro  
 35 40 45  
 Gly Thr Val Asp Lys Lys Met Val Glu Lys Cys Trp Lys Leu Met Asp  
 50 55 60  
 Lys Val Val Arg Leu Cys Gln Asn Pro Lys Leu Ala Leu Lys Asn Ser  
 65 70 75 80  
 Pro Pro Tyr Ile Leu Asp Leu Leu Pro Asp Thr Tyr Gln His Leu Arg  
 85 90 95  
 Thr Ile Leu Ser Arg Tyr Glu Gly Lys Met Glu Thr Leu Gly Glu Asn  
 100 105 110  
 Glu Tyr Phe Arg Val Phe Met Glu Asn Leu Met Lys Lys Thr Lys Gln  
 115 120 125  
 Thr Ile Ser Leu Phe Lys Glu Gly Lys Glu Arg Met Tyr Glu Glu Asn  
 130 135 140  
 Ser Gln Pro Arg Arg Asn Leu Thr Lys Leu Ser Leu Ile Phe Ser His  
 145 150 155 160  
 Met Leu Ala Glu Leu Lys Gly Ile Phe Pro Ser Gly Leu Phe Gln Gly  
 165 170 175  
 Asp Thr Phe Arg Ile Thr Lys Ala Asp Ala Ala Glu Phe Trp Arg Lys  
 180 185 190  
 Ala Phe Gly Glu Lys Thr Ile Val Pro Trp Lys Ser Phe Arg Gln Ala  
 195 200 205  
 Leu His Glu Val His Pro Ile Ser Ser Gly Leu Glu Ala Met Ala Leu  
 210 215 220  
 Lys Ser Thr Ile Asp Leu Thr Cys Asn Asp Tyr Ile Ser Val Phe Glu  
 225 230 235 240  
 Phe Asp Ile Phe Thr Arg Leu Phe Gln Pro Trp Ser Ser Leu Leu Arg  
 245 250 255

Asn Trp Asn Ser Leu Ala Val Thr His Pro Gly Tyr Met Ala Phe Leu  
 260 265 270

Thr Tyr Asp Glu Val Lys Ala Arg Leu Gln Lys Phe Ile His Lys Pro  
 275 280 285

Gly Ser Tyr Ile Phe Arg Leu Ser Cys Thr Arg Leu Gly Gln Trp Ala  
 290 295 300

Ile Gly Tyr Val Thr Ala Asp Gly Asn Ile Leu Gln Thr Ile Pro His  
 305 310 315 320

Asn Lys Pro Leu Phe Gln Ala Leu Ile Asp Gly Phe Arg Glu Gly Phe  
 325 330 335

Tyr Leu Phe Pro Asp Gly Arg Asn Gln Asn Pro Asp Leu Thr Gly Leu  
 340 345 350

Cys Glu Pro Thr Pro Gln Asp His Ile Lys Val Thr Gln Glu Gln Tyr  
 355 360 365

Glu Leu Tyr Cys Glu Met Gly Ser Thr Phe Gln Leu Cys Lys Ile Cys  
 370 375 380

Ala Glu Asn Asp Lys Asp Val Lys Ile Glu Pro Cys Gly His Leu Met  
 385 390 395 400

Cys Thr Ser Cys Leu Thr Ser Trp Gln Glu Ser Glu Gly Gln Gly Cys  
 405 410 415

Pro Phe Cys Arg Cys Glu Ile Lys Gly Thr Glu Pro Ile Val Val Asp  
 420 425 430

Pro Phe Asp Pro Arg Gly Ser Gly Ser Leu Leu Arg Gln Gly Ala Glu  
 435 440 445

Gly Ala Pro Ser Pro Asn Tyr Asp Asp Asp Asp Asp Glu Arg Ala Asp  
 450 455 460

Asp Thr Leu Phe Met Met Lys Glu Leu Ala Gly Ala Lys Val Glu Arg  
 465 470 475 480

Pro Pro Ser Pro Phe Ser Met Ala Pro Gln Ala Ser Leu Pro Pro Val  
 485 490 495



Pro Pro Arg Leu Asp Leu Leu Pro Gln Arg Val Cys Val Pro Ser Ser  
 500 505 510

Ala Ser Ala Leu Gly Thr Ala Ser Lys Ala Ala Ser Gly Ser Leu His  
 515 520 525

Lys Asp Lys Pro Leu Pro Val Pro Pro Thr Leu Arg Asp Leu Pro Pro  
 530 535 540

Pro Pro Pro Pro Asp Arg Pro Tyr Ser Val Gly Ala Glu Ser Arg Pro  
 545 550 555 560

Gln Arg Arg Pro Leu Pro Cys Thr Pro Gly Asp Cys Pro Ser Arg Asp  
 565 570 575

Lys Leu Pro Pro Val Pro Ser Ser Arg Leu Gly Asp Ser Trp Leu Pro  
 580 585 590

Arg Pro Ile Pro Lys Val Pro Val Ser Ala Pro Ser Ser Ser Asp Pro  
 595 600 605

Trp Thr Gly Arg Glu Leu Thr Asn Arg His Ser Leu Pro Phe Ser Leu  
 610 615 620

Pro Ser Gln Met Glu Pro Arg Pro Asp Val Pro Arg Leu Gly Ser Thr  
 625 630 635 640

Phe Ser Leu Asp Thr Ser Met Ser Met Asn Ser Ser Pro Leu Val Gly  
 645 650 655

Pro Glu Cys Asp His Pro Lys Ile Lys Pro Ser Ser Ser Ala Asn Ala  
 660 665 670

Ile Tyr Ser Leu Ala Ala Arg Pro Leu Pro Val Pro Lys Leu Pro Pro  
 675 680 685

Gly Glu Gln Cys Glu Gly Glu Glu Asp Thr Glu Phe Met Thr Pro Ser  
 690 695 700

Ser Arg Pro Leu Arg Pro Leu Asp Thr Ser Gln Ser Ser Arg Ala Cys  
 705 710 715 720

Asp Cys Asp Gln Gln Ile Asp Ser Cys Thr Phe Glu Ala Met Tyr Asn  
 725 730 735

Ile Gln Ser Gln Ala Pro Ser Ile Thr Glu Ser Ser Thr Phe Gly Glu  
740 745 750

Gly Asn Leu Ala Ala Ala His Ala Asn Thr Gly Pro Glu Glu Ser Glu  
755 760 765

Asn Glu Asp Asp Gly Phe Asp Val Pro Lys Pro Pro Val Pro Ala Val  
770 775 780

Leu Ala Arg Arg Thr Leu Ser Asp Ile Ser Asn Ala Ser Ser Ser Phe  
785 790 795 800

Gly Trp Leu Ser Leu Asp Gly Asp Pro Thr Thr Asn Val Thr Glu Gly  
805 810 815

Ser Gln Val Pro Glu Arg Pro Pro Lys Pro Phe Pro Arg Arg Ile Asn  
820 825 830

Ser Glu Arg Lys Ala Gly Ser Cys Gln Gln Gly Ser Gly Pro Ala Ala  
835 840 845

Ser Ala Ala Thr Ala Ser Pro Gln Leu Ser Ser Glu Ile Glu Asn Leu  
850 855 860

Met Ser Gln Gly Tyr Ser Tyr Gln Asp Ile Gln Lys Ala Leu Val Ile  
865 870 875 880

Ala Gln Asn Asn Ile Glu Met Ala Lys Asn Ile Leu Arg Glu Phe Val  
885 890 895

Ser Ile Ser Ser Pro Ala His Val Ala Thr  
900 905

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<220>  
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<222> (1)..(1440)

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1				5					10					15			
tcc	ggg	ggc	tcg	ggt	tcg	ggt	ggc	ctg	att	ggg	ctc	atg	aag	gac	gcc		96
Ser	Gly	Gly	Ser	Gly	Ser	Gly	Gly	Leu	Ile	Gly	Leu	Met	Lys	Asp	Ala		
			20					25					30				
ttc	cag	ccg	cac	cac	cac	cac	cac	cac	cac	ctc	agc	ccc	cac	ccg	ccg		144
Phe	Gln	Pro	His	His	His	His	His	His	His	Leu	Ser	Pro	His	Pro	Pro		
		35						40				45					
ggg	acg	gtg	gac	aag	aag	atg	gtg	gag	aag	tgc	tgg	aag	ctc	atg	gac		192
Gly	Thr	Val	Asp	Lys	Lys	Met	Val	Glu	Lys	Cys	Trp	Lys	Leu	Met	Asp		
	50					55					60						
aag	gtg	gtg	cgg	ttg	tgt	cag	aac	cca	aag	ctg	gcg	cta	aag	aat	agc		240
Lys	Val	Val	Arg	Leu	Cys	Gln	Asn	Pro	Lys	Leu	Ala	Leu	Lys	Asn	Ser		
65					70					75					80		
cca	cct	tat	atc	tta	gac	ctg	cta	cca	gat	acc	tac	cag	cat	ctc	cgt		288
Pro	Pro	Tyr	Ile	Leu	Asp	Leu	Leu	Pro	Asp	Thr	Tyr	Gln	His	Leu	Arg		
				85					90					95			
act	atc	ttg	tca	aga	tat	gag	ggg	aag	atg	gag	aca	ctt	gga	gaa	aat		336
Thr	Ile	Leu	Ser	Arg	Tyr	Glu	Gly	Lys	Met	Glu	Thr	Leu	Gly	Glu	Asn		
			100					105					110				
gag	tat	ttt	agg	gtg	ttt	atg	gag	aat	ttg	atg	aag	aaa	act	aag	caa		384
Glu	Tyr	Phe	Arg	Val	Phe	Met	Glu	Asn	Leu	Met	Lys	Lys	Thr	Lys	Gln		
		115					120					125					
acc	ata	agc	ctc	ttc	aag	gag	gga	aaa	gaa	aga	atg	tat	gag	gag	aat		432
Thr	Ile	Ser	Leu	Phe	Lys	Glu	Gly	Lys	Glu	Arg	Met	Tyr	Glu	Glu	Asn		
	130					135					140						
tct	cag	cct	agg	cga	aac	cta	acc	aaa	ctg	tcc	ctc	atc	ttc	agc	cac		480
Ser	Gln	Pro	Arg	Arg	Asn	Leu	Thr	Lys	Leu	Ser	Leu	Ile	Phe	Ser	His		
145					150					155					160		
atg	ctg	gca	gaa	cta	aaa	gga	atc	ttt	cca	agt	gga	ctc	ttt	cag	gga		528
Met	Leu	Ala	Glu	Leu	Lys	Gly	Ile	Phe	Pro	Ser	Gly	Leu	Phe	Gln	Gly		
				165					170					175			
gac	aca	ttt	cgg	att	act	aaa	gca	gat	gct	gcg	gaa	ttt	tgg	aga	aaa		576
Asp	Thr	Phe	Arg	Ile	Thr	Lys	Ala	Asp	Ala	Ala	Glu	Phe	Trp	Arg	Lys		
			180					185					190				
gct	ttt	ggg	gaa	aag	aca	ata	gtc	cct	tgg	aag	agc	ttt	cga	cag	gct		624
Ala	Phe	Gly	Glu	Lys	Thr	Ile	Val	Pro	Trp	Lys	Ser	Phe	Arg	Gln	Ala		
		195					200						205				
cta	cat	gaa	gtg	cat	ccc	atc	agt	tct	ggg	ctg	gag	gcc	atg	gct	ctg		672
Leu	His	Glu	Val	His	Pro	Ile	Ser	Ser	Gly	Leu	Glu	Ala	Met	Ala	Leu		
		210				215					220						
aaa	tcc	act	att	gat	ctg	acc	tgc	aat	gat	tat	att	tcg	gtt	ttt	gaa		720
Lys	Ser	Thr	Ile	Asp	Leu	Thr	Cys	Asn	Asp	Tyr	Ile	Ser	Val	Phe	Glu		
225					230					235					240		
ttt	gac	atc	ttt	acc	cga	ctc	ttt	cag	ccc	tgg	tcc	tct	ttg	ctc	agg		768

Phe	Asp	Ile	Phe	Thr	Arg	Leu	Phe	Gln	Pro	Trp	Ser	Ser	Leu	Leu	Arg		
				245					250					255			
aat	tgg	aac	agc	ctt	gct	gta	act	cat	cct	ggc	tac	atg	gct	ttt	ttg	816	
Asn	Trp	Asn	Ser	Leu	Ala	Val	Thr	His	Pro	Gly	Tyr	Met	Ala	Phe	Leu		
			260					265					270				
acg	tat	gac	gaa	gtg	aaa	gct	cgg	ctc	cag	aaa	ttc	att	cac	aaa	cct	864	
Thr	Tyr	Asp	Glu	Val	Lys	Ala	Arg	Leu	Gln	Lys	Phe	Ile	His	Lys	Pro		
		275					280					285					
ggc	agt	tat	atc	ttc	cgg	ctg	agc	tgt	act	cgt	ctg	ggt	cag	tgg	gct	912	
Gly	Ser	Tyr	Ile	Phe	Arg		Ser	Cys	Thr	Arg		Gly	Gln	Trp	Ala		
	290					295					300						
att	ggg	tat	gtt	act	gct	gat	ggg	aac	att	ctc	cag	aca	atc	cct	cac	960	
Ile	Gly	Tyr	Val	Thr	Ala	Asp	Gly	Asn	Ile	Leu	Gln	Thr	Ile	Pro	His		
305					310					315					320		
aat	aaa	cct	ctc	ttc	caa	gca	ctg	att	gat	ggc	ttc	agg	gaa	ggc	ttc	1008	
Asn	Lys	Pro	Leu	Phe	Gln	Ala	Leu	Ile	Asp	Gly	Phe	Arg	Glu	Gly	Phe		
				325					330					335			
tat	ttg	ttt	cct	gat	gga	cga	aat	cag	aat	cct	gat	ctg	act	ggc	tta	1056	
Tyr	Leu	Phe	Pro	Asp	Gly	Arg	Asn	Gln	Asn	Pro	Asp	Leu	Thr	Gly	Leu		
			340					345					350				
tgt	gaa	cca	act	ccc	caa	gac	cat	atc	aaa	gtg	acc	cag	gaa	caa	tat	1104	
Cys	Glu	Pro	Thr	Pro	Gln	Asp	His	Ile	Lys	Val	Thr	Gln	Glu	Gln	Tyr		
		355					360					365					
gaa	tta	tac	tgt	gag	atg	ggc	tcc	aca	ttc	caa	cta	tgt	aaa	ata	tgt	1152	
Glu	Leu	Tyr	Cys	Glu	Met	Gly	Ser	Thr	Phe	Gln	Leu	Cys	Lys	Ile	Cys		
	370					375					380						
gct	gaa	aat	gat	aag	gat	gta	aag	att	gag	ccc	tgt	gga	cac	ctc	atg	1200	
Ala	Glu	Asn	Asp	Lys	Asp	Val	Lys	Ile	Glu	Pro	Cys	Gly	His	Leu	Met		
385					390					395					400		
tgc	aca	tcc	tgt	ctt	aca	tcc	tgg	cag	gaa	tca	gaa	ggt	cag	ggc	tgt	1248	
Cys	Thr	Ser	Cys	Leu	Thr	Ser	Trp	Gln	Glu	Ser	Glu	Gly	Gln	Gly	Cys		
				405					410					415			
cct	ttc	tgc	cga	tgt	gaa	att	aaa	ggt	act	gaa	ccc	atc	gtg	gta	gat	1296	
Pro	Phe	Cys	Arg	Cys	Glu	Ile	Lys	Gly	Thr	Glu	Pro	Ile	Val	Val	Asp		
			420					425					430				
ccg	ttt	gat	cct	aga	ggg	agt	ggc	agc	ctg	ttg	agg	caa	gga	gca	gag	1344	
Pro	Phe	Asp	Pro	Arg	Gly	Ser	Gly	Ser	Leu	Leu	Arg	Gln	Gly	Ala	Glu		
		435					440					445					
gga	gct	ccc	tcc	cca	aat	tat	gat	gat	gat	gat	gat	gaa	cga	gct	gat	1392	
Gly	Ala	Pro	Ser	Pro	Asn	Tyr	Asp	Asp	Asp	Asp	Asp	Glu	Arg	Ala	Asp		
		450				455					460						
gat	act	ctc	ttc	atg	atg	aag	gaa	ttg	gct	ggt	gcc	aag	gtg	gaa	cgg	1440	
Asp	Thr	Leu	Phe	Met	Met	Lys	Glu	Leu	Ala	Gly	Ala	Lys	Val	Glu	Arg		
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tag																1443	

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<400> 260

Met Ala Gly Asn Val Lys Lys Ser Ser Gly Ala Gly Gly Gly Thr Gly  
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Ser Gly Gly Ser Gly Ser Gly Gly Leu Ile Gly Leu Met Lys Asp Ala  
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Phe Gln Pro His His His His His His His Leu Ser Pro His Pro Pro  
 35 40 45

Gly Thr Val Asp Lys Lys Met Val Glu Lys Cys Trp Lys Leu Met Asp  
 50 55 60

Lys Val Val Arg Leu Cys Gln Asn Pro Lys Leu Ala Leu Lys Asn Ser  
 65 70 75 80

Pro Pro Tyr Ile Leu Asp Leu Leu Pro Asp Thr Tyr Gln His Leu Arg  
 85 90 95

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